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Melbourne and Brisbane Air Traffic Service Centre – Extension Works

4.1 Airservices Australia (Airservices) seeks approval from the Committee to construct additional buildings and supporting amenities at the Melbourne and Brisbane air traffic service centres. The buildings will each house a modern air traffic control operations room compatible with new technology being implemented as part of the *OneSKY Australia Program*.[1]

4.2 OneSKY is a joint initiative of Airservices and the Department of Defence. It will see the nation's separate civil and military air traffic control systems replaced by a more modern, combined Civil-Military Air Traffic System (CMATS).[2] Airservices said CMATS will deliver:

> …enormous safety, service and efficiency benefits for the nation.[3]

4.3 The estimated cost of the project is $107 million, excluding GST.

4.4 The project was referred to the Committee on 19 August 2015.

Conduct of the inquiry

4.5 Following referral, the inquiry was publicised on the Committee's website and via media release.

4.6 The Committee received one submission and one supplementary submission from Airservices. A list of submissions can be found at Appendix A.

4.7 The Committee received a briefing from Airservices and conducted public and in-camera hearings in Canberra on 16 October 2015. A transcript of

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1 Airservices Australia, submission 1, pp. 5-6.

2 Airservices Australia, submission 1, p. 5.

3 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 1.

the public hearing and the public submissions to the inquiry are available on the Committee's website.[4]

Need for the works

4.8 Airservices manages aviation traffic in the Australian airspace from the Brisbane and Melbourne air traffic service centres. Approximately 600 air traffic controllers work across the centres, operating on rosters to provide round-the-clock management of aviation traffic, seven days a week. Staff currently work from operations rooms in existing air traffic service centre buildings, which also house supporting amenities such as training rooms.[5]

4.9 The construction of additional buildings at the Melbourne and Brisbane air traffic service centres is necessary to provide the physical facilities required during the transition period of the *OneSKY Australia Program*. Beginning 2018, CMATS will operate in tandem with existing air traffic control systems until incumbent systems are phased-out four years later. Airservices explained:

> We will be building our new OneSKY system and [will] be operating it in parallel with our existing system, transitioning small components of our airspace over a number of years.[6]

4.10 Airservices said aviation safety and service reliability was a 'primary driver' in the decision to incrementally transition to CMATS:[7]

> …in moving to a brand new system, it is going to be very important to run it in a mimicked or ghosting environment and take all the live inputs and make sure that the system does not lose its integrity. We are going to… run it in parallel as a ghosted system for some time. Then we will present [a] safety case to [the Civil Aviation Safety Authority] to implement the system.[8]

4.11 Additional operations and training rooms are necessary to enable Airservices to operate both the original and new air traffic control systems in parallel as well as prepare its personnel to operate CMATS.[9]

4.12 Airservices said the benefits of extending air traffic service centres to enable an incremental transition to a new air traffic control system have been proven. It described its previous move from post-World War II radar technology to the current air traffic control system in 1998:

4 <www.aph.gov.au/pwc>.
5 Airservices Australia, submission 1, p. 6.
6 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 1.
7 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 3.
8 Mr Darryl Woods, Airservices Australia, transcript of evidence, 16 October 2015, p. 3.
9 Airservices Australia, submission 1, p. 6.

> In transitioning in 1998 we constructed a new building. We purchased [ ] a simulation capacity but we also kept the systems running in parallel… then we moved through a period of training and then ghosting—so you had controllers in both centres:
>
> - the old centre was providing live air trafficking services; and
> - the new centre was watching… how the traffic was progressing and mimicking what they were doing.
>
> Then we did the cut-over so that the new centre was providing services but we still had the old centre doing the backup to ensure that any degradation of service, loss of functionality or anything that was missed… by the new system was picked up.
>
> …the ghosting and mimicking process and running the two in parallel for a period of time makes sense from a redundancy point of view. That is what we did in 1998, and we think that is the safest and most effective way to do it again.[10]

4.13 Airservices said this approach will also enable staff to undertake training and familiarise themselves with the new system before it goes live:

> One of the less tangible advantages to [an incremental transition to CMATS] is that people, who are a little challenged and a bit nervous about using the technology, will have the ability to play with the system first without having to be in the control seat. This is what happened in 1998… We found by allowing people to go and explore by themselves in an adult learning sense that they could overlearn the way in which things are done and do free play, if you like. They were able to feel much more comfortable with the new software driven systems.[11]

4.14 The Committee is satisfied that the need for the work exists.

Options considered

4.15 Airservices considered two options before settling on the proposed works.

4.16 *1 – Refurbishment of Existing Air Traffic Service Centres and In-Situ Transition*

The option to refurbish existing air traffic service centres and in-situ transition to OneSKY technology was discounted because:

- existing facilities lack sufficient floor space to accommodate two air traffic control systems and could not support training activities during the transition period;

10 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 3.

11 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 4.

- managing the complexities of in-situ transition would result in increased project costs;
- upgrading technology in an operational facility increases the risk of disruption or failure of air traffic control services;
- Airservices personnel would be exposed to safety risks associated with construction in an operational facility; and
- the complexities of in-situ transition increases the risk of project timeframes not being met.[12]

4.17 *2 – Extension of Air Traffic Service Centres*

The construction of additional buildings, linked to current air traffic service centre buildings, was the preferred option because:

- additional buildings will provide the physical facilities require to accommodate and manage new and incumbent air traffic control systems in tandem;
- the impact of construction activities on Airservices personnel is minimised;
- the risk of disrupting air traffic control services is lower; and
- project costs are reduced.[13]

4.18 Further, Airservices said that existing air traffic service centre buildings could be repurposed for training, office space and supporting amenities following the completion of the *OneSKY Australia Program*. This would enable Airservices' personnel currently accommodated in rented Brisbane office space to relocate into these facilities. It would also remove the need to build a new training facility in Melbourne.[14]

4.19 However, Airservices said plans to repurpose the buildings had not been finalised as the ongoing evolution of air traffic control technologies may see priorities for these spaces shift by the time OneSKY concludes:

> [ ]We have not yet finalised our plans in relation to how and for what purpose we might refurbish the [existing] Brisbane and Melbourne centres, that is because we have got some emerging technologies and we need to do some careful thinking first in that space.[15]

4.20 The Committee found that Airservices considered options to deliver the project and has selected the most suitable option.

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12 Airservices Australia, submission 1, p. 6.

13 Airservices Australia, submission 1, p. 7.

14 Airservices Australia, submission 1, p. 7.

15 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 3.

Scope of the works

4.21 Works on the Brisbane air traffic service centre will comprise:

- the construction of an additional two-storey building to house a modern operations room, staff amenities and an internal plant room;
- an external plant room to accommodate generators, boilers, chillers and associated pumps;
- new liquid petroleum gas (LPG) and fuel tank storage facilities;
- fire protection services;
- car parking spaces; and
- landscaping.[16]

4.22 Works on the Melbourne air traffic service centre will comprise:

- the construction of an additional two-storey building to house a modern operations room, staff amenities and an internal plant room;
- an external plant room to accommodate generators, boilers, chillers, associated pumps, and an electrical substation;
- a chiller enclosure;
- new LPG and fuel storage facilities;
- associated building services such as plumping, water supply, rainwater harvesting and reticulation;
- fire protection services;
- car parking spaces; and
- landscaping.[17]

4.23 Airservices explained how the extension works were designed to support delivery of a highly reliable air traffic management system, with existing facilities providing access to back-up if needed:

> The new extensions are designed to provide state-of-the-art high-security high-reliability environments that operate 24 hours a day. They are complex facilities that will have their own power and water supplies as well as air-conditioning and fire suppression systems that minimise the risk of staff every having to walk away from their job. The extensions are designed to be linked to existing facilities in order to minimise the requirements for supporting amenities.[18]

16 Airservices Australia, submission 1, p. 10.

17 Airservices Australia, submission 1, p. 10.

18 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 1.

4.24 With so many capital works projects being managed at the same time (including a number of public works projects recently examined by the Committee), the Committee sought assurance that Airservices has adequate capacity. Airservices responded:

> With regard to resourcing, obviously the criticality of the provision of air traffic control to this nation is acknowledged. We have a comprehensive resourcing plan that takes us up to 2025 and includes the transition to OneSKY… We are confident in our resourcing levels to support this transition.[19]

4.25 Subject to Parliamentary approval of the project, work is expected to commence in 2016 and be completed by the end of 2017.[20]

4.26 The Committee finds that the proposed scope of works is suitable for the works to meet its purpose.

Cost of the works

4.27 The estimated cost of the project is $107 million, excluding GST.

4.28 Airservices provided further detail on the project costs in the confidential submission and during the in-camera hearing.

4.29 The Committee considers that the cost estimates for the project have been adequately assessed by Airservices and the Committee is satisfied that the proposed expenditure is cost effective. As the project will not be revenue generating, the Committee makes no comment in relation to this matter.

Committee comments

4.30 The Committee did not identify any issues of concern with Airservices' proposal and is satisfied that the project has merit in terms of need, scope and cost.

4.31 Proponent agencies must notify the Committee of any changes to the project scope, time, cost, function or design. The Committee also requires that a post-implementation report be provided within three months of project completion. A report template can be found on the Committee's website.

4.32 Having regard to its role and responsibilities contained in the *Public Works Committee Act 1969*, the Committee is of the view that this project signifies value for money for the Commonwealth and constitutes a project which is fit for purpose, having regard to the established need.

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19 Mr Greg Hood, Airservices Australia, transcript of evidence, 16 October 2015, p. 2.

20 Airservices Australia, submission 1, p. 14.

Recommendation 4

4.33 **The Committee recommends that the House of Representatives resolve, pursuant to Section 18(7) of the *Public Works Committee Act 1969*, that it is expedient to carry out the following proposed work: Melbourne and Brisbane Air Traffic Service Centre – Extension Works.**

Senator Dean Smith

Chair

12 November 2015