



FreeTV
Australia

Submission by Free TV Australia

Review of the Viewer Access Satellite
Television (VAST) service

Department of Communications and the Arts

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Table of Contents

1	Executive Summary	3
2	Introduction	4
3	Access to VAST still critical in regional and remote Australia in 2018.....	5
4	Increasing number of Australians relying on VAST	6
5	VAST remains critical into the foreseeable future despite technological changes	8
	5.1 IP based delivery is not a viable alternative	8
6	Performance of VAST	10
	6.1 Content on VAST services	10
	6.2 Implications of evolving technical standards on quality of VAST services...	11
	6.3 VAST set-top boxes	11
	6.4 Reliability of reception	12
	6.5 VAST application process and mySwitch website.....	12
7	Funding.....	14
	7.1 Government funding.....	14
	7.2 Broadcaster funding	14

1 Executive Summary

- Free TV supports the continuation of the VAST service and the continued funding of the VAST service by the Government from the end of the current funding period (20 June 2020) for a further ten years.
- Free-to-air television is the only platform that delivers high quality Australian programs including news, current affairs, extensive coverage of sporting events, iconic dramas, films and entertainment and reality programming, to all Australians for free.
- In regional and remote Australia, commercial free-to-air television is a particularly highly valued source of local content and local news services. It connects Australians with their communities and serves an important function in remedying the sense of distance and isolation that can arise in geographically remote locations.
- VAST is critical to delivering these services. In remote Australia, VAST is the only way to provide television services to the population living in these areas. In regional and metropolitan areas, VAST is critical to providing access to viewers in digital television black spots.
- In other similar contexts, such as digital blackspots for mobile telecommunications operators, the Government has provided \$220 million in subsidy funding as part of its mobile digital blackspots program.¹
- VAST is an extremely reliable, consistent and high-quality service. Existing VAST technologies (DVB-S2 and MPEG-4) are currently more efficient than the technologies used for terrestrial television services.
- VAST technology is and will remain critical to delivering television services into the foreseeable future. IP based delivery is not a viable alternative from either a technical or a cost perspective:
 - From a technical perspective, as a one-to-one transmission rather than a one-to-many transmission, IP based delivery does not guarantee access to a suite of services comparable to the VAST channel offering (where IP access exists at all).
 - From a cost perspective: IP based delivery options are not free to the consumer and would require consumers to purchase broadband plans with sufficient data to be able to watch television.

¹ <https://www.communications.gov.au/what-we-do/phone/mobile-services-and-coverage/mobile-black-spot-program>

2 Introduction

Free TV thanks the Department for the opportunity to comment on the Department's Consultation Paper, *Review of the Viewer Access Satellite Television (VAST) service (the Issues Paper)*.

Free TV represents Australia's commercial free-to-air television broadcasters. Free-to-air television is the only platform that delivers Australian programs, including news and current affairs, extensive coverage of sporting events, and iconic dramas, films, entertainment and reality programs to all Australians for free. The local content that Free TV members broadcast delivers enormous cultural and social value by creating and reinforcing our national identity. This local content is highly valued by the Australian public with millions of Australians watching broadcast TV each week.

In regional and remote Australia, commercial free-to-air television is a particularly critical source for local content and news services. Local content connects people in rural and remote with each other and can assist in remedying the sense of distance and isolation that can arise in geographically remote locations. A 2017 Australian Communications and Media Authority (ACMA) survey in regional Australia found that commercial free-to-air TV was the most preferred source for local news. In addition, commercial free-to-air TV was found to be the most trusted media news source for regional Australians across all platforms.²

Viewer Access Satellite Television (VAST) has been and remains critical to delivering these services in regional and remote Australia as well as other areas where terrestrial coverage is deficient. VAST was introduced in 2010 to close the digital TV divide between regional and remote Australians and those living in cities, and to ensure that all Australians can access reliable free-to-air television services.³ The introduction of VAST marked the first time that viewers in remote areas enjoyed access to the substantially the same program content as metro and regional viewers.

Close to 200,000 Australian households and approximately 30,000 travellers currently rely on VAST to access television services. The WIN Network and Prime Media Group provide these services in WA via a joint venture, WA Satco Pty Ltd (WA Satco), and Southern Cross Austereo and Imparja Television provide services in the other states via another joint venture, Eastern Australia Satellite Broadcasters Pty Ltd (EASB).⁴

² ACMA, Local content in regional Australia 2017 report, May 2017, pg 9

³ https://www.pcworld.idg.com.au/article/367540/digital_tv_divide_closed_34m_federal_grant/
<https://www.goulburnpost.com.au/story/972792/welcome-reception-for-digital-tv-switchover/>

⁴ Issues Paper, Figure 2.

3 Access to VAST still critical in regional and remote Australia in 2018

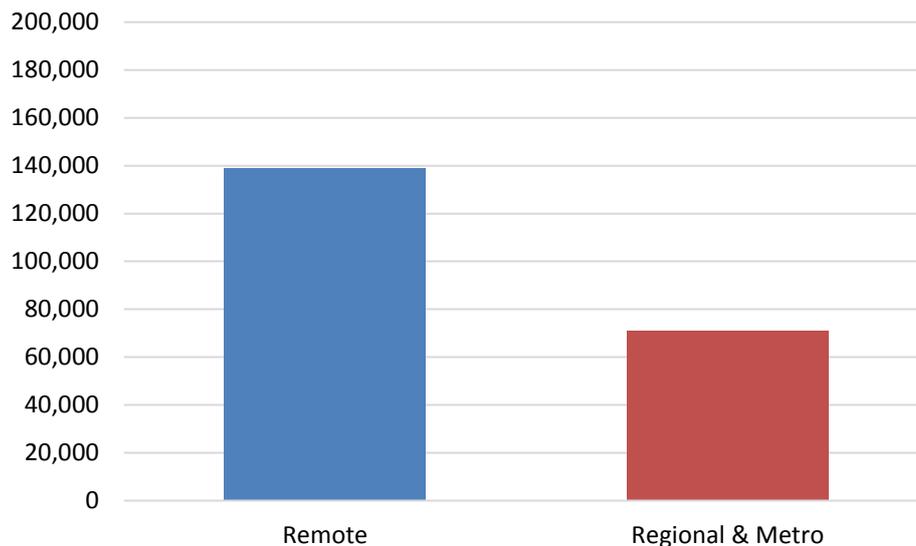
VAST serves two critical functions:

1. It delivers free-to-air television services in declared service deficient areas – i.e. remote areas where there is no free-to-air terrestrial television reception.
2. It provides a safety-net for viewers in terrestrial digital television ‘black spots’ in regional and metropolitan licence areas where reliable reception is not possible.

Viewers in declared service deficient areas have automatic access to VAST while those in safety-net areas have conditional access depending on an assessment of their inability to receive terrestrial television at their specific location. Maintaining conditional access in safety-net areas is a requirement under broadcasters’ s 38C licences and Part 9C of the BSA and ensures that the integrity of broadcasters’ terrestrial licence areas is maintained.⁵ Commercial television broadcasters comply with this requirement by administering and funding the Conditional Access Scheme (CAS) through a television industry joint venture, RBA Holdings Pty Ltd (RBAH).

Figure 1 below shows the approximate split between the two functions: VAST use in remote areas (including travellers through those areas) compared to its use in regional and metro areas.⁶

FIGURE 1: ACCESS TO VAST IN REMOTE VS REGIONAL & METRO AREAS



In remote areas, VAST is critical as it is the only way to provide television services to the population living in these areas. In these areas where the population density is very low, it remains uneconomical for commercial free-to-air broadcasters to invest in costly transmission infrastructure and deliver terrestrial signals. This is not unlike the challenges mobile telecommunications operators face. The VAST service and funding for the service is critical for providing the suite of commercial television channels to remote viewers. It is also critical for providing the full suite of the ABC and SBS’s standard and high definition digital television services in these areas.

In regional and metro areas that are service-deficient, the VAST service is critical for viewers in digital terrestrial television ‘blackspots’ as it is the only way that these viewers can get access to television services. In these areas, VAST addresses an important function in ‘gap-filling’ areas where due to location specific reasons, terrestrial signals are too weak or cannot reach a particular area.

⁵ <https://www.acma.gov.au/theACMA/conditional-access-schemes-digital-switchover-i-acma>

⁶ Data provided by RBAH, 2018.

4 Increasing number of Australians relying on VAST

The number of households accessing commercial free-to-air television via VAST is gradually but steadily increasing. Post the completion of digital switchover in 2013, the total number of households accessing VAST has climbed from 198,863 households in May 2015, to 209,873 as at 31 May 2018.⁷

Figure 2 illustrates that this gradual increase of VAST users has occurred across regional, remote and metro areas. The number of travellers accessing VAST has stayed relatively stable.⁸

FIGURE 2: CONSISTENT GROWTH IN VAST USAGE

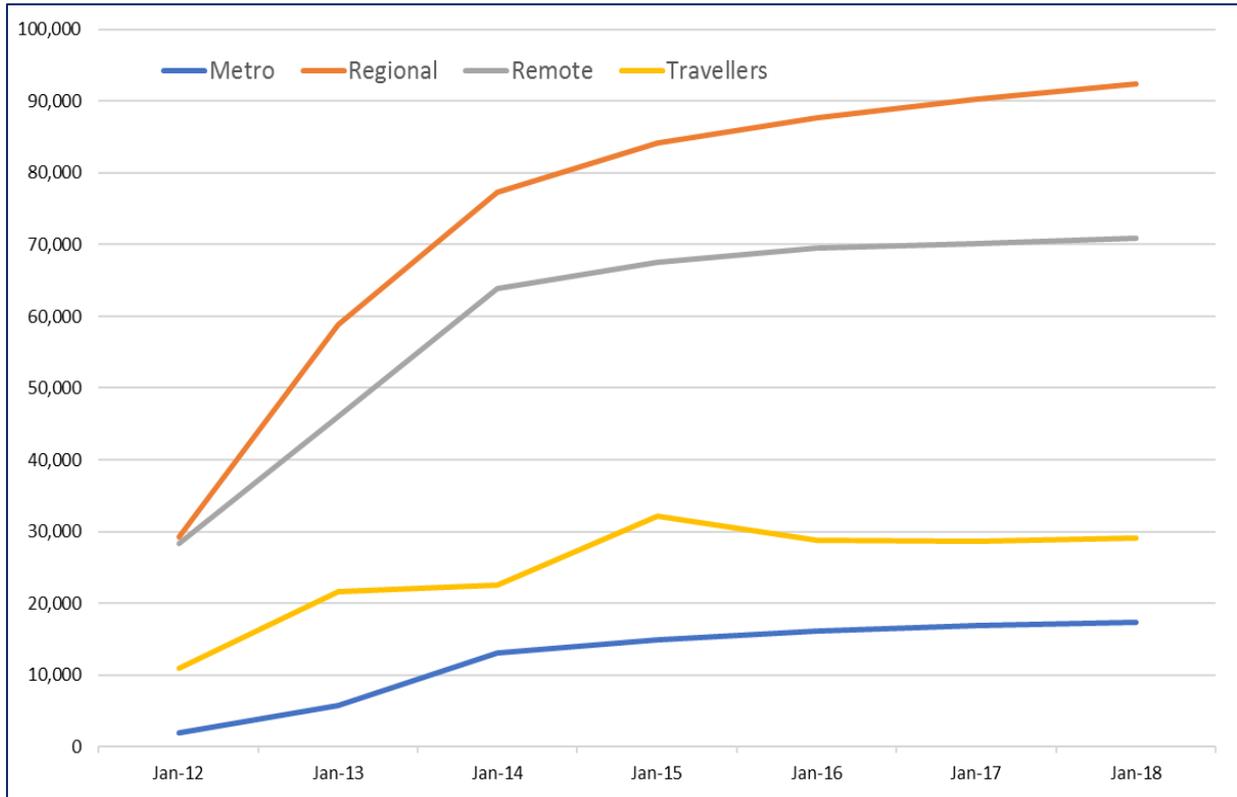


Table 1 below compares the numbers of households accessing VAST in different regional areas in 2015 and 2018:⁹

TABLE 1: COMPARISONS OF HOUSEHOLDS ACCESSING VAST IN 2015 VS 2018

	2015	2018
Total households	198,863	209,873
Remote - Households	67,356	109,596
Remote - Travellers	32,175	29,132

⁷ Data provided by RBAH, 2015-2018.

⁸ Ibid.

⁹ Ibid.

Remote - Norfolk Island and Marine	196	166
Regional	84,234	53,614
Metro	14,902	17,365

It is worth noting that the criteria for granting VAST applications have not changed during this time. To get access to VAST households must be in a remote TV licence area, a regional or metropolitan licence area without reliable terrestrial television reception or an area that the ACMA has declared to be service deficient. In addition, in Free TV's experience, people generally prefer terrestrial services to VAST because terrestrial television provides more local content including local advertising.

The reasons that VAST numbers are increasing therefore appears to be a combination of an increasing Australian population and new developments in areas in both regional and metro areas where terrestrial services are not reliable.¹⁰

¹⁰ Based on information provided by RBAH, 2018.

5 VAST remains critical into the foreseeable future despite technological changes

Government funding of VAST together with broadcasters' funding of the CAS has ensured that viewers in remote and terrestrial black spot areas have free access to substantially the same free-to-air television services as metropolitan viewers.

Satellite technology was chosen for VAST as the most practical and cost-effective method of delivering commercial television services to remote and regional Australia. It is and will remain the most appropriate technology for delivering free-to-air television services to viewers in these areas of Australia in the foreseeable future.

5.1 IP based delivery is not a viable alternative

The Issues Paper in section 3 identifies technological developments which have occurred since the introduction of VAST in 2010 and seeks feedback on the implications of these developments on VAST services, and whether the increasing availability of online TV content has changed the way viewers access and consume content in areas where terrestrial TV reception is unreliable.

For the reasons outlined below, the changes in technology and distribution networks outlined in the Issues Paper do not impact on the need to maintain VAST in the foreseeable future.

As demonstrated in Figure 2 and Table 1 above, technological developments have not had a significant impact on access to VAST. In many regional and remote areas where there are no television transmitters, VAST is the only way to access commercial free-to-air television services. Areas which do not have access to television towers, generally will not have access to the NBN or to mobile phone towers either because it remains uneconomical to provide conventional coverage.¹¹

In remote areas that have access to the NBN it is generally provided by either satellite or via fixed wireless services and the current rollout of the NBN will mean that the numbers of people that have access to the NBN post-2020 will increase. In terrestrial digital television 'black spots', where VAST provides a safety-net for viewers, viewers may also have access to internet services via fibre or copper cable and/or mobile coverage despite the fact that they do not receive television signals.

However, access to online services on its own does not guarantee access to a suite of services comparable to the VAST channel offering.

5.1.1 Technical issues

IP based delivery is not a viable alternative for providing commercial free-to-air television services. IP based delivery currently is a one-to-one transmission rather than a one-to-many transmission such as broadcasting (including via VAST). This means that internet by satellite services such as Sky Muster would use significantly more data compared to VAST because the data requirements for a program would apply to each television or device, rather than simply to the satellite.

This distinction between one-to-many and one-to-one services makes IP based delivery susceptible to congestion and unsuitable for providing television services. In clarifying comments made by CEO Bill Morrow before the Joint Standing Committee on the NBN, NBN Co recently said in a statement clarifying the limitations on fixed wireless technology:

There were many causes of congestion including higher than expected take-up of the fixed wireless service and increased data consumption, but the main cause is concurrency. This is where multiple users are on the network at the same time, usually streaming videos.¹²

¹¹ For example see: <https://www.telstra.com.au/coverage-networks/our-coverage>

See also: <https://www.skymesh.net.au/support/knowledge-base-guides/sky-muster-beam-locations/>

¹² <https://www.nbnco.com.au/corporate-information/media-centre/media-statements/fact-check-online-gamers-fixed-wireless.html>

Concurrency is key to watching live television events. However, it also leads to internet traffic becoming congested, and negatively impacting on the quality of the service provided to viewers. During popular live events such as the Royal Wedding or the AFL grand final (which the majority of people still prefer to watch live rather than via catch-up TV at a later time),¹³ there would be a risk of the quality of the service delivered to viewers being reduced or failing. The recent debacle with the streaming of the World Cup by Optus demonstrated this.¹⁴

5.1.2 Data plan caps

Congestion issues have led to data caps being imposed on NBN customers connected via Sky Muster satellite services. Customers accessing the NBN in regional and remote areas via this service are subject to data caps which apply to both use in peak as well as off-peak times over 4 week rolling periods depending on the plan they are on.¹⁵

Based on average daily television viewing habits (2 hours and 27 minutes of live or time-shifted TV on in-home TV sets each day according to OzTAM),¹⁶ average usage per person per 28 days would require more than 143.325 GB per television or device. This is a substantial amount and does not take into account the data requirements for other uses (for example, Netflix, Skype, web browsing and emails, social media use). The data caps currently in place in relation to access to NBN Satellite services to prevent congestion issues would therefore significantly curtail the ability of viewers to access television.

5.1.3 Costs payable by viewers for access

From a cost perspective, unlike terrestrial television, services provided over the internet or via mobile are not free to the consumer. Assuming one was available, the consumer would need to pay for a broadband plan which provided sufficient data to be able to watch television in addition to any other required internet use. This would essentially mean that consumers in regional and remote areas would be required to pay for the services that those in non-service deficient metropolitan areas get for free.

¹³ For example, see OzTAM Australian Video Viewing Report, Quarter 4, 2017.

¹⁴ <https://mumbrella.com.au/optus-hands-world-cup-games-back-to-sbs-after-floptus-streaming-debacle-524127>

¹⁵ For example see https://iihelp.iinet.net.au/NBN_Satellite_Fair_Use_Policy_FAQ

¹⁶ <http://www.oztam.com.au/documents/Other/AVVR-Q4-2017-Med%20Res%20Final.pdf>

6 Performance of VAST

The Issues Paper notes that viewers who have relied on VAST have spoken positively about the service.¹⁷ Free TV agrees. The VAST service has performed over and above expectations. In relation to both EASB and WA Satco VAST services, complaints have been minimal (usually about being denied the service because the viewer is not in a service-deficient area).¹⁸ Since inception, there has not been any need for Optus to provide either EASB or WA Satco with any service credits for the service being down – it has been consistently reliable.

The Issues Paper identifies a number of areas where the service could be improved. We address these below.

6.1 Content on VAST services

6.1.1 Provision of additional content on VAST

The Issues Paper notes two key differences between VAST services and terrestrial services. Firstly, it notes that the content on VAST is not as comprehensive and secondly it notes that there is a delay of approximately half an hour between the terrestrial broadcast of regional commercial news bulletins before they are made available to VAST viewers.¹⁹

Before the introduction of VAST in 2010, broadcasters only delivered the primary channel of their services via satellite. It was not commercially viable to provide the multichannels available in metropolitan and regional areas because of the high costs of satellite delivery to a small and geographically dispersed population. The intention upon introduction of the VAST service in 2010 was that it would make the same number of channels available in regional and remote areas as are available in the capital cities.²⁰ In 2010 it did this, however additional channels were subsequently introduced on terrestrial services, for example, the datacasting services were launched after the introduction of VAST and 7Flix was launched in 2016 and 9Life was launched in 2015. For this reason, content on the VAST service is not as comprehensive as terrestrial channels.

Free TV supports an extension of government funding to allow an expansion of services on the VAST platform to include these additional services. Providing additional services on VAST to replicate terrestrial services would be beneficial for viewers and would fulfil the Government's policy intention of VAST providing the same services to remote Australians as is available to those living in regional and metropolitan areas. However, as there is no commercial case for providing additional services - they would not deliver any additional advertising revenue for broadcasters - any new services would require additional government funding for satellite bandwidth as well as for program and playout (transmission) costs.

6.1.2 Additional news service

The other difference in content provided on VAST vs terrestrial television is that VAST provides an additional service – a local news service through a dedicated news channels.²¹ The purpose of this service is to ensure that safety net viewers in regional and metro areas have access to local news services most relevant to them. For example, a viewer in a declared service deficient area would be able to get a Cairns news service (in addition to remote area news services). However, the VAST service does not provide any other local programming services outside of the news bulletins.

¹⁷ Issues Paper, 13.

¹⁸ Information provided by RBAH, 2018.

¹⁹ Issues Paper, 13.

²⁰ <http://www.abc.net.au/local/stories/2010/04/15/2873312.htm>

²¹ <http://www.abc.net.au/local/stories/2010/04/15/2873312.htm>

The Issues Paper notes that there is a delay of approximately half an hour between the terrestrial broadcast of regional commercial news bulletins before they are made available to VAST viewers. This is the case for viewers receiving the East Coast service. As local news shows from contributing broadcasters go to air in their respective terrestrial markets, they are recorded at a single location, trimmed, aggregated and replayed sequentially as a separate service on the VAST platform. The sequence is looped several times during the evening. The recording, trimming and aggregation process takes time, resulting in a delay between each news show airing in its terrestrial market and being shown on VAST.²²

In addition, there may be a time delay in some programs as a result of different time-zones. For example, there may be a delay in the RC&E license area because much of this licence area is located within the Australian Central Time (ACT) zone. Viewers in other time zones within this license area would experience delays relative to those in the ACT time-zone.

6.2 Implications of evolving technical standards on quality of VAST services

The Issues Paper notes that:

“broadcasters have recently announced the commencement of trials of the newer DVB-T2 transmission standard. In relation to satellite services, the DVB-S2X standard developed in 2014 offers a number of improvements to the DVB-S2 standard currently used by VAST. These advances in TV transmission can potentially allow broadcasters to deliver a greater range of services, or services with a higher resolution, within a given spectrum allocation”.

Free TV notes that broadcasters are already using the equivalent of DVB-T2 (DVB-S2) on their satellite services and all services are transmitted in MPEG-4 video compression format. This means that the VAST service is currently more efficient than existing terrestrial services.²³

We are not currently convinced that DVB-S2X would provide a significant additional increase in efficiency that would warrant the risks of upgrading to a new standard. Existing set top boxes required for VAST do not support an upgrade to DVB-S2X (or HEVC). Therefore, any upgrade in technologies would require viewers in 200,000+ households including in remote areas to acquire new set-top boxes capable of receiving the satellite signal. Given the costs involved and the fact that the recent ABS census confirmed that the most socio-economically disadvantaged local council areas tend to be regional and remote local council areas, a government assistance program would be required to ensure people in these areas have continued access to television and are not disadvantaged relative to their metropolitan counterparts.²⁴

In the transition to a new technology, broadcasters would likely also need to continue legacy transmissions through simulcast programming until almost all viewers upgrade their receivers. This can take years given that free-to-air broadcasters do not have retail relationships with viewers. It would also require additional bandwidth capacity to be provided by Optus.

Free TV notes that an upgrade to DVB-S2X would not be required to provide the relatively small number of additional services that have been introduced on terrestrial television since the introduction of VAST.²⁵

6.3 VAST set-top boxes

The Issues Paper also notes that VAST set-top boxes have a higher cost and more limited range of functionality than terrestrial TV set-top boxes.²⁶

²² Information provided by Southern Cross Austereo, 2018.

²³ Information provided by Southern Cross Austereo and Free TV Engineering Committee.

²⁴ For example see:

<http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/2071.0~2016~Main%20Features~Socio-Economic%20Advantage%20and%20Disadvantage~123>

²⁵ Information provided by Free TV Engineering committee.

²⁶ Issues Paper, 13.

As noted above, access to VAST services is controlled by the CAS, an industry operated conditional access system.²⁷ The reason VAST set top boxes are more expensive and more limited in range is because they need to facilitate the CAS. The CAS relies on proprietary smart card conditional access technology that is integrated into each set top box. This requirement differentiates VAST set top boxes from other free-to-air television set top boxes. The conditional access technology in these boxes requires a closed and managed receiver ecosystem to ensure reliable reception and this adds some complexity to the issue of set top box availability.²⁸

Free TV understands from EASB and WA Satco that during the design of the VAST system, close consultation occurred between EASB, WA Satco, the Department, Optus and set top box manufacturers to manage the need for a proprietary conditional access system as well as viewer access to a range of suitable set top boxes at acceptable price points. Currently there are three set top box manufacturers offering a range of Optus certified set top boxes and integrated TV receivers for the VAST market ranging from simple receivers through to personal video recorders, integrated TV receivers and devices designed for mobile battery operation.²⁹

Free TV considers the range of options available for VAST viewers to be adequate.

6.4 Reliability of reception

VAST is a reliable service: Overall reliability of VAST services is equivalent to or better than terrestrial services.³⁰ As with any satellite service, signal reliability is significantly reduced in heavy rain however this is not an issue with VAST specifically but rather all services provided by satellite (for example, Foxtel services would also be impacted by heavy rain). This is due to interruption in the signal path between the earth station and satellite (uplink) and the satellite and the customer receiver location (down link). Weather events around the uplink site impact on all viewers whereas weather events around the customer down link site only impact viewers in that area. Storm activity severe enough to disrupt services is typically short lived (less than 30 minutes). As noted above, WA Satco, EASB and RBAH receive very minimal complaints about the VAST service.³¹

6.5 VAST application process and mySwitch website

6.5.1 Application process

The Issues Paper notes that some viewers have complained about the time taken for VAST access to be approved and the lack of information about the application/review process.

RBA Holdings (RBAH) administers the schemes for the three s 38C licence areas, Southern Australia TV3, Northern Australia TV3 and Western Australia TV3. Viewers seeking access to VAST apply via the mySwitch website.³² RBAH manages the application process for each of the three licence areas in accordance with rules established by the three registered conditional access schemes.³³

Clause 10.2 of each of the CAS rules for each of South Eastern Australia, Northern Australia and Western Australia require the Scheme Administrator to process applications for access to VAST services within either 5 days (for areas that are deemed to be service deficient) or 15 days (for areas which require an assessment in relation to terrestrial reception at the specific location where VAST has been requested).³⁴ Free TV understands that all applications are completed within these specified timeframes.

²⁷ Issues Paper, 11.

²⁸ Information provided by and Free TV Engineering Committee.

²⁹ Information provided by Southern Cross Austereo.

³⁰ Information provided by Free TV Engineering Committee.

³¹ Ibid.

³² <http://myswitch.digitalready.gov.au/>

³³ Conditional Access Scheme Northern Australia TV3, September 2012; Conditional Access Scheme South Eastern Australia TV3, September 2012; Conditional Access Scheme Western Australia TV3, September 2012.

³⁴ Ibid.

6.5.2 mySwitch website

Free TV notes that the mySwitch website together with the mysattv website provide a significant amount of information about the application and review process. The mySwitch website is critical to VAST's performance and must be maintained. It is a critical tool in:

- Providing reception information for particular locations in Australia;
- Providing information about the antenna set-up likely to be appropriate at specific locations;
- Helping predict digital TV coverage across Australia; and
- Helping predict whether you can expect to receive terrestrial TV broadcasts from a particular location.³⁵

These functions are critical to the integrity of the conditional access system that underpins VAST and determines whether or not a viewer should get access to the service.

³⁵ <https://myswitch.digitalready.gov.au/>

7 Funding

7.1 Government funding

As noted in the Issues Paper, VAST is supported by Government funding. This funding assists with the annual operating costs for the Optus satellite and delivery of the additional services.

Government funding of VAST is critical for its continued operation. It is not commercially viable to serve a small population spread across a dispersed geographical area. Each program added to a broadcaster's services involves an increased operational cost for satellite delivery. At the same time, there is limited opportunity for recouping these additional costs from advertising revenue because of the dispersed population and inability to deliver localised programming.

For this reason, Free TV strongly supports the continuation of VAST funding by Government from the end of the current funding period (20 June 2020) for a further ten years, to enable VAST to continue to be provided to people who cannot access television services via terrestrial signals.

7.2 Broadcaster funding

It is important to acknowledge that Commercial free-to-air broadcasters are solely responsible for a number of other expenses associated with VAST including operation and management of the CAS (via RBAH) and costs associated with supplying programs to the VAST service.

While ABC and SBS services are provided on VAST, and access to the services are automated via the CAS, the national broadcasters do not contribute to its operation or management.