



# Domestic Transmission Capacity Service

2016 Final Access Determination  
Variation Inquiry

Final Report

**Public version**

December 2019

Australian Competition and Consumer Commission  
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## List of abbreviations

|           |  |
|-----------|--|
| ACCC      | Australian Competition and Consumer Commission   |
| ASC       | Australia Singapore Cable  |
| BROC      | Binding rule of conduct  |
| CCA       | <i>Competition and Consumer Act 2010</i>   |
| CPI       | Consumer Price Index   |
| CSP       | Carriage service provider  |
| DTCS      | Domestic transmission capacity service (as defined in the current service description) |
| ESA       | Exchange service area  |
| FAD       | Final access determination   |
| Gbps      | Gigabits per second  |
| LTIE      | Long-term interests of end-users   |
| Mbps      | Megabits per second  |
| NBN       | National broadband network   |
| NPTCs     | Non-price terms and conditions   |
| NPV       | Net Present Value  |
| POI       | Point of interconnection   |
| SAOs      | Standard access obligations  |
| SDH       | Synchronous digital hierarchy  |
| SIO       | Services in operation  |
| SLCs      | Special linkage charges  |
| Telco Act | <i>Telecommunications Act 1997</i>   |
| WACC      | Weighted average cost of capital   |

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## 1. Executive Summary

In October 2018, Vocus Communications (Vocus) advised the Australian Competition and Consumer Commission (ACCC) that it would shortly commence providing transmission services between mainland Australia and the external territory of Christmas Island (the Christmas Island service) utilising a 30km cable branching out from a 4,000km subsea cable between Perth and Singapore.

Given the material disparity between current Domestic Transmission Capacity Service (DTCS) Final Access Determination (FAD) prices and the costs of providing transmission services to Christmas Island, Vocus requested the ACCC consider issuing Binding Rules of Conduct (BROC) setting differentiated terms of access to the Christmas Island service.

On 19 December 2018, the ACCC made a BROC, setting interim price terms of access to the Christmas Island service for a maximum period of twelve months based on the costs and demand forecasts provided by Vocus. The ACCC also commenced a variation inquiry to determine a final price for this transmission service to incorporate in the current DTCS FAD (2016).

The interim price was expected to allow Vocus to recover its costs and make an appropriate return on its investment pending the final decision.

In its submissions to the inquiry, Vocus advised that [c-i-c] and, as a result, the interim price would not provide for cost recovery. Vocus proposed that the monthly price for the regulated service be set at [c-i-c].

In this Final Report, the ACCC has:

- retained the pricing methodology it adopted in the Draft Report, which was based on the framework of Vocus' financial model
- reassessed the parameters of that model, revising [c-i-c] to reflect new information provided by Vocus
- recalculated the range of regulated prices, based on the additional costs to be recovered, and
- determined the final regulated price to be at the mid-point of that range.

Accordingly, the ACCC has varied the 2016 DTCS FAD to include a regulated price of \$52,366 per Gbps per month for access to transmission services between mainland Australia and Christmas Island on the Vocus subsea cable. This price is \$5,671 higher than the price in the Draft Report.

The ACCC considers this price to be in the long-term interests of end-users (LTIE). It will promote competition in relevant markets, achieve any-to-any connectivity in relation to carriage services and encourage the economically efficient use of, and investment in, infrastructure.

## 2. About this review

In late 2018, Vocus finalised construction of its Australia-Singapore Cable (ASC), a subsea transmission cable linking Perth and Singapore via Jakarta, Indonesia. The ASC includes a 30km 'spur' branching out from the main cable to Christmas Island, an external Australian territory.

On 19 December 2018, the ACCC issued a BROCC, setting interim terms and conditions for access to declared transmission services between mainland Australia and Christmas Island.

Section 152BCN(9) of the *Competition and Consumer Act 2010* (CCA) requires the ACCC to commence a FAD variation inquiry within 30 days of making a BROCC.

The ACCC commenced an inquiry into varying the existing DTCS FAD (the 2016 DTCS FAD Inquiry) on 19 December 2018.

This paper sets out the ACCC's analysis and final terms of access to the Christmas Island service. The ACCC notes that much of the information it has assessed in forming its position is confidential or commercially sensitive.

### 2.1. Consultation

The ACCC commenced an inquiry into varying the 2016 DTCS FAD on 19 December 2018. Subsequently, on 5 June 2019, it released a Consultation Paper, in conjunction with its new 2019 DTCS FAD inquiry, seeking stakeholder views. Only two submissions were received in relation to the pricing of the Christmas Island service – from Vocus and from Telstra Corporation Limited (Telstra).

The ACCC published a Draft Report on 23 October 2019, seeking final comments from stakeholders. Once again, only Vocus and Telstra provided submissions to the consultation process.

### 2.2. Structure of this Final Report

This Final Report is structured as follows:

- Section 3 provides background to the Inquiry
- Section 4 sets out the information provided by Vocus, views of stakeholders and the ACCC's analysis
- Section 5 identifies the ACCC's proposed pricing terms of access for the transmission route to Christmas Island
- Section 6 outlines the ACCC's assessment against the legislative framework,
- Appendix 1 lists the submissions from stakeholders received by the ACCC, and
- Appendix 2 contains a copy of the Variation Instrument.

## 3. Background

### **Key Points**

- Vocus commenced operation of a new transmission service from mainland Australia to Christmas Island in early 2019.
- The ACCC issued Binding Rules of Conduct on 19 December 2018, setting interim price terms of access to apply until a new regulated price is determined and commenced a variation inquiry.
- This interim price was set as an uplift of 360 per cent on current FAD prices to be applied to the 2,600km subsea component of the transmission service.

### 3.1. Transmission services

Transmission services are high capacity, dedicated data links that carry large volumes of traffic, which underpin many telecommunications services. Wholesale transmission services allow access seekers to connect their customers in places where they do not own their own transmission infrastructure.

The DTCS is a regulated transmission service that enables access seekers to acquire wholesale transmission services under reasonable terms in areas where competition is limited or non-existent. It encompasses high capacity data links within a single wholesale service declared under s.152AL(3) of the CCA.

The DTCS was re-declared for a five-year period on 1 April 2019, with the new declaration becoming effective on 1 January 2020.<sup>1</sup>

Regulated terms and conditions of access for the DTCS, including regulated prices, are established through a FAD. These terms and conditions apply where there is no commercial agreement between an access seeker and an access provider.

The 2016 DTCS FAD expires on 31 December 2019. The ACCC is currently conducting an inquiry to decide, among other things, whether to develop a new FAD, vary the existing FAD or extend the existing FAD.

### 3.2. Binding rules of conduct

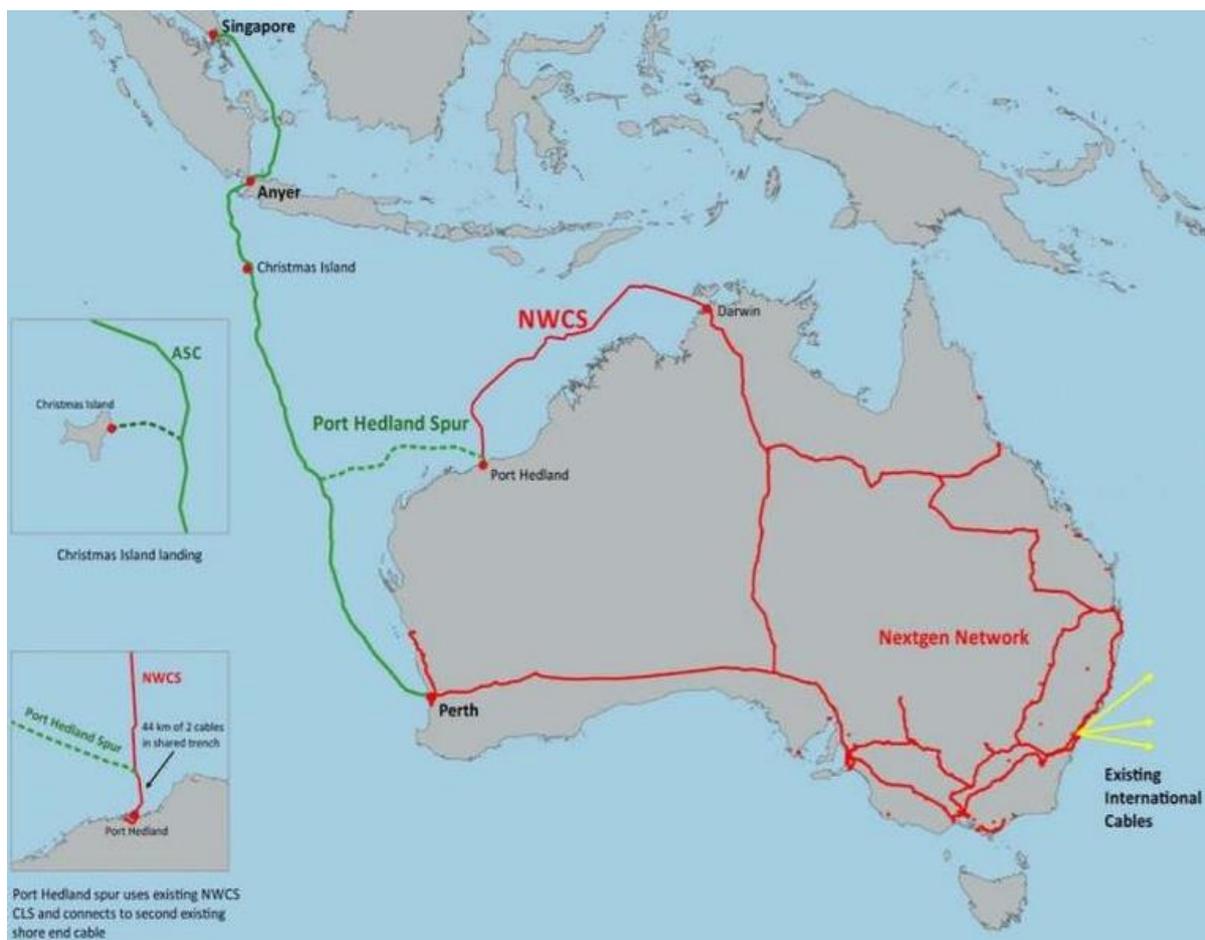
#### 3.2.1. The Christmas Island service

During the 2018-19 DTCS Declaration Inquiry, Vocus foreshadowed the commencement of a new transmission service from mainland Australia to Christmas Island to be delivered by a 30 km spur branching out from a 4,600km high capacity subsea cable between Perth (Western Australia) and Singapore which was under construction at the time (the Christmas Island service). See Figure 1 below.

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<sup>1</sup> A transitional period of nine months is to apply before the changes to the scope of regulation arising from the 2018-19 DTCS Declaration Inquiry take effect. This gives access providers sufficient time to make any necessary adjustments to their commercial arrangements.

Figure 1 – The Australia Singapore Cable



Source: Vocus Communications

This service was deemed to be captured by the DTCS service description<sup>2</sup> and, thereby, declared and subject to the Standard Access Obligations (SAOs) under s.152AR of the CCA.

In October 2018, Vocus requested the ACCC make a BROCC<sup>3</sup> in relation to this service on the basis that:

- the existing DTCS FAD prices did not cover the direct costs of providing the proposed service to Christmas Island
- compliance with the SAOs (at regulated prices) would harm Vocus' legitimate business interests, and
- the need for the BROCC was urgent as it proposed to commence supplying services from early 2019.<sup>4</sup>

<sup>2</sup> ACCC, Final Report on the review of the declaration for the DTCS, April 2019, pp. 69-75.

<sup>3</sup> S.152BD of the CCA provides that the ACCC may make written rules specifying terms and conditions of access to a specified declared service if it considers there is an urgent need to do so.

<sup>4</sup> Vocus letter to the ACCC, October 2018, p. 7.

### 3.2.2. Interim prices for the Christmas Island service

The ACCC concluded that the Christmas Island service fell within the scope of the DTCS service description. As such, Vocus has an obligation to provide wholesale access to the service under the terms set out in the DTCS FAD.

On 19 December 2018, the ACCC issued a BROCC,<sup>5</sup> setting interim terms of access for the Christmas Island service to apply until new prices are determined. The ACCC also commenced an inquiry into varying the 2016 DTCS FAD at that time.

The BROCC sets out a method to determine the regulated price for a DTCS between any point in Australia (A-end of the service) and the Christmas Island Exchange Service Area (ESA) (B-end of the service).

As the Christmas Island service is provided via Vocus' datacentre in Shenton Park, Western Australia, the total interim price for the service was calculated as the sum of two parts, as per the following formula:

$$\text{The price for the Christmas Island service} = \text{DTCS FAD price}_{A-S} + 4.6 \times \text{DTCS FAD price}_{2600}$$

where:

- **DTCS FAD price<sub>A-S</sub>** is the price that will result from the application of the 2016 DTCS pricing model to a service of the required data rate, provided over a route of distance equal to the radial distance between the A-end of the service and the location of the Vocus datacentre in Shenton Park, Western Australia.
- **DTCS FAD price<sub>2600</sub>** is the price that will result from the application of the 2016 DTCS pricing model to a service of the required data rate, provided over a regional route for a notional distance of 2600km.

In this manner, the BROCC priced services to Christmas Island by way of an uplift of 360 per cent on current FAD prices to be applied to the 2,600km subsea component of the service.

The size of this uplift was determined after:

- considering cost information provided by Vocus, including details of capital and operating expenditure incurred and other assumptions encompassed in a cost model it provided to support its case (the Vocus model), and
- benchmarking of costs for comparable international undersea cables.

The objective of this FAD Variation inquiry is to determine regulated prices to replace the interim terms of access established by the BROCC.

### 3.3. Legislative framework

Within 30 days of making the BROCC, s.152BCN(9) of the CCA required the ACCC to commence a FAD variation inquiry to determine permanent prices for the Christmas Island service.<sup>6</sup>

In varying an access determination, the ACCC is required to take into account a number of matters set out in s.152BCA(1) of the CCA. These are:

- whether the access determination will promote the LTIE
- the legitimate business interests of a carrier or carriage service provider who supplies, or is capable of supplying, the declared service, and the carrier's or provider's investment in facilities used to supply the declared service

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<sup>5</sup> ACCC, *Christmas Island Binding Rules of Conduct (Vocus)*, 19 December 2018

<sup>6</sup> CCA, s.152BCN(9)

- the interests of all persons who have rights to use the declared service
- the direct costs of providing access to the declared service
- the value to a person of extensions, or enhancement of capability, whose cost is borne by someone else
- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or a facility, and
- the economically efficient operation of a carriage service, a telecommunications network or a facility.<sup>7</sup>

The ACCC may also take into account any other matters that it thinks are relevant.<sup>8</sup>

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<sup>7</sup> CCA s.152BCA(1)

<sup>8</sup> CCA s.152BCA(3)

## 4. ACCC Analysis

### **Key Points**

- Vocus considered the price set by the BROCC to be materially below its efficient cost of providing the DTCS to Christmas Island.
- **[c-i-c]**.
- The ACCC adjusted a number of parameters in the revised Vocus model to determine a revised price.
- The price for the Christmas Island service will be set as an uplift over existing FAD prices.

### 4.1. Confidential information

Vocus identified many of the principal parameters of its financial model as being commercial-in-confidence. As a result, details of these parameters and much of the ACCC's analysis that is directly related to them, were redacted from the public version of the Draft Report.

#### **Stakeholder submissions to the Draft Report**

Telstra acknowledged that Vocus was entitled to recover its efficient costs. However, it pointed out that, without the opportunity to review key attributes of the cost model, including how costs for Christmas Island were apportioned out of the overall cost of the ASC project, it was unable to assess the reasonableness of the proposed uplift to terrestrial DTCS prices.<sup>9</sup>

Telstra stated that it had sought access to the confidential data in the Draft Report and the cost model used to derive the pricing uplift (including under appropriate confidentiality undertakings), but Vocus had declined to provide access to this information.<sup>10</sup>

Telstra suggested that the ACCC remain open to varying its pricing for the Christmas Island service as part of the ongoing 2019 DTCS FAD Inquiry. Telstra considered that this would provide it with an opportunity to establish an acceptable confidentiality process with Vocus, allowing it to view key material and provide comment to the Commission.<sup>11</sup>

#### **ACCC Final Report**

The ACCC accepts that it is difficult for stakeholders to comment on certain aspects of the Draft Report without access to all of the confidential information it has used in its decision-making.

However, as Vocus has not consented to the disclosure of this protected information, under s.155AAA(15) of the CCA, the ACCC is unable to disclose this information in this instance.

It has similarly redacted references to commercial-in-confidence information in this Final Report.

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<sup>9</sup> Telstra, Response to ACCC's 2016 FAD Variation Inquiry Draft Report on DTCS Pricing to Christmas Island, p. 1.

<sup>10</sup> Telstra, Response to ACCC's 2016 FAD Variation Inquiry Draft Report on DTCS Pricing to Christmas Island, p. 2.

<sup>11</sup> Telstra, Response to ACCC's 2016 FAD Variation Inquiry Draft Report on DTCS Pricing to Christmas Island, p. 2.

In acknowledgment of Telstra's concerns, the ACCC notes that stakeholders will have an opportunity to make further comment on the regulated price for the Christmas Island service during consultation on the Draft Report to the 2019 DTCS FAD Inquiry. This is discussed further in section 5.2 of this Final Report.

## 4.2. The BROCC price

In its decision to issue a BROCC in December 2018, the ACCC set an interim monthly price for the Christmas Island service equivalent to 4.6 times the DTCS FAD price (or an uplift factor of 360 per cent on the current price) of a terrestrial DTCS service.<sup>12</sup>

The Commission sought stakeholder views on the appropriateness of that price.

### Stakeholder submissions to the Consultation Paper

Vocus considered the price set by the BROCC to be materially below its efficient cost of providing the service, including a normal commercial return.<sup>13</sup>

It argued that the regulated price should reflect the very significant investment costs and numerous high risks inherent in the ASC project and international submarine builds generally, and be based on Vocus' specific costs in supplying this undersea cable service.<sup>14</sup>

Vocus was concerned that a price set below the efficient costs of supplying the declared service would not promote efficient competition.<sup>15</sup>

It also pointed out that if access seekers were able to acquire the DTCS over the Christmas Island route at prices below the efficient cost of supply, this would negatively impact NBN Co's proposed supply of enterprise-grade satellite services to remote areas. In Vocus' view, this would likely reduce the demand for these alternative services, thereby reducing the incentives for NBN Co and Speedcast to provide such services to Christmas Island.<sup>16</sup>

Telstra queried the factors driving the difference between the uplift factor for the undersea component of the Bass Strait link and that in the BROCC. It expected Vocus would face similarly higher costs for deploying and operating marine cable as other owners/operators of undersea cable links.<sup>17</sup>

### ACCC Draft Report

In setting the BROCC price for the DTCS to Christmas Island the ACCC took into account as a primary consideration, the direct costs Vocus incurred in providing the service. It did this in recognition of the material discrepancy between current DTCS FAD prices and the costs incurred in providing the Christmas Island service.<sup>18</sup>

In setting interim access terms that reflect the costs of providing the Christmas Island service, the ACCC was of the view that the BROCC price would:

- promote the long-term interest of end users
- recognise the legitimate interests of access providers and the investments in the facilities used to supply the declared services

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<sup>12</sup> ACCC, Binding Rules of Conduct (Vocus), December 2018.

<sup>13</sup> Vocus, DTCS FAD Inquiry Consultation Paper – public submission, p. 6.

<sup>14</sup> Vocus, DTCS FAD Inquiry Consultation Paper – public submission, p. 6.

<sup>15</sup> Vocus, DTCS FAD Inquiry Consultation Paper – public submission, p. 7

<sup>16</sup> Vocus, DTCS FAD Inquiry Consultation Paper – public submission, p. 7

<sup>17</sup> Telstra, DTCS FAD Inquiry Consultation Paper – public submission, pp. 4, 15-16.

<sup>18</sup> ACCC, Christmas Island Binding Rules of Conduct (Vocus) – Explanatory Statement, December 2018, p. 5.

- acknowledge the interests of all persons who have rights to use the declared service, and
- encourage the economically efficient operation of the service.<sup>19</sup>

Based on the costs and demand forecasts provided by Vocus at that time, the ACCC considered that the BROCC price would allow Vocus to recover its costs and make an appropriate return on its investment.

In its submission to the Consultation Paper, Vocus revised some elements of its financial model, in particular [c-i-c]. The ACCC took into account, amongst other things, the information in this updated Vocus model.

Telstra queried the difference in size between the 360 per cent uplift in the BROCC interim price for the DTCS to Christmas Island and the 140 per cent uplift applied to the DTCS price for services to Tasmania in the 2016 DTCS FAD.

The ACCC considered that such a difference is appropriate, particularly given the relative system lengths and costs, and respective market characteristics. It noted that the combined impact of:

- a longer cable system (2,600km to Christmas Island, compared with around 300km across Bass Strait), and
- relatively lower demand for transmission services to and from Christmas Island across that longer cable due to, for example, a smaller population (1,843 in Christmas Island and 515,000 in Tasmania)<sup>20</sup> and fewer commercial and government users

generates significantly higher unit costs, and therefore warrants a commensurately higher regulated rate per Gbps for the Christmas Island service.

### 4.3. Parameters of the Vocus model

In determining a regulated price for the Christmas Island service, the ACCC needs to take into account a range of factors, including appropriate levels of capital and operating costs, the life of a marine cable system, and an appropriate rate of return for undersea cable investments. It sought views from stakeholders on these parameters in the Consultation Paper.

#### Submissions to the Consultation Paper

Vocus provided the ACCC with a confidential updated financial model. Most of the parameters within the revised model were unchanged from those applied in the model provided to the ACCC in October 2018 in support of a BROCC.

#### Cable costs and system life

The spur connecting Christmas Island with mainland Australia is part of the larger ASC venture involving the laying of a subsea cable between Perth and Singapore via Jakarta, Indonesia.

Vocus indicated that the system route has a cable length of 4,600km, and is a four-pair fibre network with 40Tbps of capacity (100 x 100 Gbps per pair) using Dense Wavelength Division Multiplexing. The project cost was US\$170 million (around A\$230 million).<sup>21</sup>

<sup>19</sup> ACCC, Christmas Island Binding Rules of Conduct (Vocus) – Explanatory Statement, December 2018, p. 5.

<sup>20</sup> Populations based on the 2016 Census.

<sup>21</sup> Vocus, DTCS FAD Inquiry Consultation Paper – public submission, p. 5.

It also noted that the spur to Christmas Island from the core Perth-Singapore cable system is approximately 30 km and comprises [c-i-c].<sup>22</sup>

Vocus stated that the normal design life for an undersea cable system is 25 years but noted that the associated electronic system will need to be replaced every 5 to 7 years at an additional cost.<sup>23</sup>

Telstra agreed that the normal operating life of a subsea cable is approximately 25 years, being dependent on a number of factors including the technology employed at the installation stage and the amount of maintenance required, which generally relates to geographical conditions, fishing activities, and whether the cable is buried or surface laid.<sup>24</sup>

#### Project capital and operating expenditure

In its model for the project, Vocus identified [c-i-c].<sup>25</sup>

Descriptions of the cost components for the capital and operating expenditure specified in the Vocus model are set out in Tables 1 and 2 below.<sup>26</sup>

#### **Table 1 - Capex cost components**

[c-i-c]

#### **Table 2 – Opex cost components**

[c-i-c]

Telstra noted that it had previously provided confidential information to the Commission on operating costs for an undersea cable system. It expected that Vocus would face similarly higher costs for deploying and operating a marine cable as other owners and operators of undersea cable links.<sup>27</sup>

#### Cost escalator

Vocus applied an annual cost escalator of [c-i-c] to its operating and maintenance expenditure, based on [c-i-c]. It also noted that many of its costs [c-i-c] which have been subject to increases of [c-i-c].<sup>28</sup>

#### Rate of return

In its modelling, Vocus adopted a weighted average cost of capital (WACC) of [c-i-c].<sup>29,30</sup> [c-i-c] This WACC is applied to discount the stream of cash flows in its financial model over the life of the asset.

More recently, Vocus advised the ACCC that [c-i-c].<sup>31</sup>

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<sup>22</sup> Vocus, DTCS FAD Inquiry Consultation Paper – confidential submission, p. 5.

<sup>23</sup> Vocus, DTCS FAD Inquiry Consultation Paper – public submission, p. 8.

<sup>24</sup> Telstra, DTCS FAD Inquiry Consultation Paper – public submission, p. 16.

<sup>25</sup> Vocus, DTCS FAD Inquiry Consultation Paper – confidential submission.

<sup>26</sup> Vocus, Response to further ACCC questions, email received 7 August 2019.

<sup>27</sup> Telstra, DTCS FAD Inquiry Consultation Paper – public submission, p. 16.

<sup>28</sup> Vocus, Response to further ACCC questions, email received 7 August 2019.

<sup>29</sup> [c-i-c].

<sup>30</sup> [c-i-c].

<sup>31</sup> Vocus, Response to further ACCC questions, email received 7 August 2019.

## Demand

In its July 2019 submission, Vocus updated its model, and advised [c-i-c].<sup>32</sup> It suggested that the most likely scenario would be for a [c-i-c].<sup>33</sup>

Vocus noted that, based on recent interactions with potential customers: [c-i-c].<sup>34</sup>

## Annual price adjustment

In its model, Vocus assumed that the price of the Christmas Island service will fall annually by [c-i-c] over the life of the project. It advised that this rate was based on [c-i-c].<sup>35</sup>

## Exchange rate

In its financial modelling, Vocus adopted an exchange rate between the Australian dollar (A\$) and the United States dollar (US\$) of [c-i-c].

## **ACCC Draft Report**

In the Draft Report, the ACCC compared Vocus' financial model inputs and assumptions against industry standards and established valuation principles.

## Cable costs and system life

The ACCC noted that, on 12 July 2019, Vocus announced publicly that the capacity of the ASC had been expanded.<sup>36</sup> At that time, the ACCC understood that the system was capable of operating at 50 per cent more capacity than had been indicated at the time of launch.

The total cost of the ASC is US\$170 million, equivalent to a construction cost of around A\$50,000 per kilometre.

The ACCC compared publicly-available information on capital expenditure incurred on a range of submarine systems with landing points in Australia, and took the average construction cost per kilometre of cable as a broad comparator.

While acknowledging the limitations of benchmarking capital costs across different subsea services (as they may differ in terms of their key characteristics, such as distance, capacity and the number of landing sites), the ACCC was satisfied that the ASC's capex per kilometre is within a reasonable range of the sample average.<sup>37</sup>

The ACCC is satisfied with the proposed 25-year life for the cable as it is consistent with industry's generally-accepted parameters. Accordingly, it accepted the 25-year length of the cash-flow stream to be reasonable for financial modelling purposes.

## Project capital and operating expenditure

Most of the capital and operating costs identified by Vocus were directly attributable to expenditure on the Christmas Island spur. However, allocations from overall system costs were made for:

- initial project capital expenditure [c-i-c] and

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<sup>32</sup> Vocus, DTCS FAD Inquiry Consultation Paper – confidential submission, p. 10.

<sup>33</sup> Vocus, Response to further ACCC questions, email received 7 August 2019.

<sup>34</sup> Vocus, DTCS FAD Inquiry Consultation Paper – confidential submission, p. 10.

<sup>35</sup> Vocus, Response to further ACCC questions, email received 7 August 2019.

<sup>36</sup> <https://www.vocus.com.au/news/australia-singapore-cable-operating-at-50-more-capacity>

<sup>37</sup> The sample consisted of 13 subsea cables landing in Australia, with an average capex/km of \$48,600.

- operating and maintenance costs [c-i-c].

The ACCC reviewed the technical considerations provided by Vocus in support of its proposed allocation approach.

In initial meetings with the ACCC, Vocus advised that [c-i-c].

The ACCC is satisfied that this approach is reasonable based on [c-i-c].

However, it noted that [c-i-c].

Vocus confirmed that [c-i-c].<sup>38</sup>

[c-i-c] the ACCC revised [c-i-c] reducing:

- the initial project capital expenditure of the spur by US\$1.4 million (about A\$1.9 million), and
- operating expenditure for the spur by around US\$103,000 (around A\$137,300) per annum, on average.

In the 2014 DTCS FAD inquiry, Telstra provided the ACCC with confidential aggregated cost data associated with maintaining its telecommunication undersea cables across Bass Strait.<sup>39</sup> The ACCC benchmarked this information against the costs provided by Vocus, and is satisfied that the relativities generally reflect the different characteristics of the two systems, particularly in relation to geography, distance and risk.

#### Rate of return

In its model, Vocus applied a WACC of [c-i-c].

The ACCC assessed the reasonableness of this figure against other market-based estimates for the Vocus Group and other domestic telecommunications companies.

In principle, the ACCC considered there to be a logical basis for the Vocus WACC to be commensurately higher than those of its comparators, particularly given the risk profile of the other network operators differ significantly from those of Vocus.

This view was supported by market evidence.

The ACCC noted that Vocus' proposed rate is [c-i-c] than the publicly-reported WACCs of the other three major network operators, including Telstra 6.4 per cent,<sup>40</sup> Optus 7.6 per cent<sup>41</sup> and TPG 7.6 per cent.<sup>42</sup>

It was also aware of more recent confidential equity analyst reports that have estimated a WACC for the Vocus Group that is: [c-i-c].<sup>43</sup>

Vocus advised that [c-i-c].

Accordingly, the ACCC decided to adopt a WACC of [c-i-c] in determining a draft regulated price for the Christmas Island service.

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<sup>38</sup> Vocus email to ACCC, 4 September 2019.

<sup>39</sup> Telstra, Confidential letter to the ACCC, 29 January 2016.

<sup>40</sup> <https://www.macquarie.com.au/dafiles/Internet/mgl/au/apps/retail-newsletter/docs/2017-02/TLS170217e.pdf>

<sup>41</sup> <https://www.macquarie.com.au/dafiles/Internet/mgl/au/apps/retail-newsletter/docs/2015-02/SGT130215e.pdf>

<sup>42</sup> <https://www.macquarie.com.au/dafiles/Internet/mgl/au/apps/retail-newsletter/docs/2017-03/TPM220317e.pdf>

<sup>43</sup> Based on confidential information provided to the ACCC.

The ACCC considered that this WACC would allow Vocus to receive an appropriate return on its investment in transmission infrastructure.

### Cost escalator

The ACCC noted that the consumer price index (CPI) and other labour cost price pressures have been relatively low, at around two per cent per annum on average, for much of the post-GFC period.

However, the ACCC considered that, given the specialist nature of O&M services for international cable systems, including labour, future cost pressures may not necessarily be correlated with the Australian CPI and domestic wage inflation. In addition, it believed that the level of competition in the market for these specialist services is likely to be limited.

Accordingly the ACCC was of the view that real cost increases could be expected and therefore [c-i-c] proposed by Vocus is a reasonable cost escalator to be applied across the project horizon.

### Demand

[c-i-c].<sup>44</sup>

#### **Figure One: Expected demand for the Christmas Island service**

[c-i-c]

The ACCC sought evidence of access and service agreements already secured by Vocus. It confirmed that [c-i-c].

Based on this information, the ACCC [c-i-c] to reflect the level of actual demand in those agreements.

### Future price path

The Vocus model assumes that the price for the Christmas Island service will decline annually by [c-i-c].

The ACCC acknowledged the uncertainty surrounding the future behaviour of transmission prices to Christmas Island and noted Vocus' advice that [c-i-c].

The ACCC considered that, over time, with accelerating innovation and the swift adoption of new technologies in the telecommunications sector, transmission prices to Christmas Island are likely to fall. For example, it noted the future potential for low earth orbit satellites to offer a backhaul service with much lower latency and thereby be a much closer substitute for undersea transmission than the existing satellite technologies.

However, the ACCC was of the view that annual discounts of the size proposed by Vocus may be too high, particularly given the small size of the market, the current level of demand and the limited opportunities for competition, particularly in the short to medium term.

In the absence of any other evidence it considered that, having regard to potential new technologies, the consistency of price behaviour for Christmas Island services and mainland services over time would be a reasonable assumption.

Accordingly, the ACCC assumed an annual price adjustment factor of five per cent for its base case analysis. The ACCC believed this to be a reasonable estimate and in line with

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<sup>44</sup> Vocus, Confidential submission to the ACCC, 17 October 2018.

ACCC observations of pricing behaviour in the market for transmission services with similar characteristics.

The ACCC considered that there would be merit in implementing a price path that mirrors the timing of price adjustments for the DTCS elsewhere. In this context, in its modelling it:

- held prices for the Christmas Island services constant for the first five years of the project (should the new final price be rolled over in the new FAD currently under development), and
- adjusted prices once every five years thereafter (by an equivalent compounded rate), based on the assumption that FADs will continue to be reviewed at five-yearly intervals.

### Exchange rate

All of the costs in the Vocus model are expressed in US\$ terms. To determine an A\$ price for the Christmas Island service, Vocus applied an exchange rate of [c-i-c] to the model's optimised price.

The ACCC considered that this assumption is reasonable for a model with a 25-year horizon, recognising that the average bilateral exchange rate since January 1984 is around US\$0.76.<sup>45</sup>

## **Submissions to the Draft Report**

The only matter that Vocus addressed in its submission to the Draft Report was in relation to the ACCC's decision to reduce the allocation of shared capital and operating costs from the ASC. It was of the view that there was no basis for this decision.<sup>46</sup>

Vocus acknowledged the greater capability of the main system. It noted that the ASC is a four-fibre pair system that was designed to carry one hundred 100Gbps wavelengths per fibre pair, that is 4 x 100 x 100Gbps (40Tbps of total capacity). It revealed that system testing it had commissioned demonstrated that the system could be provisioned with new 150Gbps cards, increasing total capacity to 60Tbps.<sup>47</sup>

However, Vocus [c-i-c].<sup>48</sup>

Vocus observed that [c-i-c].<sup>49</sup>

Vocus also advised that [c-i-c].<sup>50</sup>

Vocus also advised that [c-i-c].<sup>51</sup>

## **ACCC Final Decision**

Based on this new information from Vocus, the ACCC accepts that the ASC, for which shared costs are being allocated, can [c-i-c].

Accordingly, in this Final Report, the ACCC has revised the capex allocator [c-i-c].

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<sup>45</sup> Reserve Bank of Australia, average of monthly exchange rates – January 1984 to August 2019.

<sup>46</sup> Vocus, DTCS FAD 2016 Variation Inquiry Draft Report – public submission, p. 1.

<sup>47</sup> Vocus, DTCS FAD 2016 Variation Inquiry Draft Report – public submission, p. 1.

<sup>48</sup> Vocus response to additional ACCC questions, 29 November 2019.

<sup>49</sup> Vocus response to additional ACCC questions, 29 November 2019.

<sup>50</sup> Vocus response to additional ACCC questions, 29 November 2019.

<sup>51</sup> Vocus response to additional ACCC questions, 29 November 2019.

Compared to the shared costs in the Draft Report, this decision results in an increase in:

- the initial project capital expenditure of the spur by US\$1.4 million (about A\$1.9 million), and
- operating expenditure for the spur by around US\$103,000 (around A\$137,300) per annum, on average.

With no other matters raised by stakeholders, all other model parameters in the Draft Report are unchanged in the Final Report.

#### 4.4. Determination of a regulated price

The ACCC sought comment on an appropriate price for the Christmas Island service, taking into account the additional costs and risks associated with the construction and operation of a long-distance subsea cable.

#### Submissions to the Consultation Paper

Vocus noted that [c-i-c].<sup>52</sup>

Notwithstanding this, Vocus proposed pricing the DTCS to Christmas Island at [c-i-c].<sup>53</sup>

#### ACCC Draft Report

As set out in section 4.3 above, the ACCC made a number of adjustments to the Vocus model. It then applied the model to solve for the access price which generates a net present value (NPV) of zero for the project cash-flows.

On this basis, the ACCC calculated the direct costs incurred in providing the Christmas Island service to be \$37,664 per Gbps per month. This is lower than the interim price set under the BROCC, reflecting the combined impact of the parameter adjustments made to the model by the ACCC and [c-i-c].

The current DTCS FAD terms set the monthly price for an equivalent 'mainland' transmission service on a 2,600km regional route as \$9,187 per Gbps.<sup>54</sup> This is less than 25 per cent of the ACCC's best estimate of Vocus' cost of providing the Christmas Island service.

#### Regulated price as the mid-point of a reasonable range

The ACCC accepted that its analysis is based on broad assumptions and limited information and that these factors have implications for the regulated price.

In particular, it notes the uncertainty surrounding future price behaviour, and the sensitivity of the model's optimised price to changes in the price path assumption

To mitigate this estimation risk, the ACCC used the model to calculate a range of regulated prices by varying the annual price adjustment parameter in the Vocus model.

Taking prices to be unchanged for the first five years of the project, the ACCC set:

- its notional estimate of \$37,664 per Gbps per month as the lower bound price (base case), reflecting an annual five per cent decline in future prices, and

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<sup>52</sup> Vocus, DTCS FAD Inquiry Consultation Paper – confidential submission, p. 11.

<sup>53</sup> Vocus, DTCS FAD Inquiry Consultation Paper – confidential submission, pp. 10-11.

<sup>54</sup> DTCS calculator: <https://www.accc.gov.au/regulated-infrastructure/communications/transmission-services-facilities-access/domestic-transmission-capacity-service-final-access-determination-inquiry-2014/final-decision>

- \$55,725 per Gbps per month as an upper bound price, consistent with Vocus' assumption that prices will fall each year by [c-i-c], while maintaining all of its other parameter adjustments.

Table 1 identifies this range and compares it to other pricing alternatives.

**Table 1 – Options for regulated access price**

|                         | Current FAD* (A\$) | BROC (A\$) | Lower Bound (A\$) | Midpoint (A\$) | Upper bound (A\$) | Vocus proposed (A\$) |
|-------------------------|--------------------|------------|-------------------|----------------|-------------------|----------------------|
| Monthly price \$/Gbps   | \$9,187            | \$42,086   | \$37,664          | \$46,695       | \$55,725          | [c-i-c]              |
| Price (as FAD multiple) | 1.0                | FAD x 4.6  | FAD x 4.1         | FAD x 5.1      | FAD x 6.1         | [c-i-c]              |

\* price for equivalent mainland service

To best account for the uncertainty in future price behaviour, the ACCC considered that the regulated price should fall midway between those lower and upper bounds.

The mid-point price of \$46,695Gbps equates to 5.1 times the DTCS FAD price on a terrestrial DTCS and generates a rate of return [c-i-c].

### Submissions to the Draft Report

Vocus believed that the monthly regulated price should be higher than \$46,695Gbps to reflect a higher allocation of ASC costs to the Christmas Island spur project.<sup>55</sup>

### ACCC Final Decision

Having revised the shared cost allocation upwards in section 4.3, the regulated price for the Christmas Island service will need to be commensurately higher to ensure Vocus is able to recover the additional shared costs.

With all of the other parameters unchanged from the Draft Report, and adopting the mid-point of a range of monthly prices, as shown in Table 2 below, the ACCC has set the monthly price for the Christmas Island service to be \$52,366Gbps.<sup>56</sup> This is an increase of \$5,671 on the price set in the ACCC's Draft Report.

<sup>55</sup> Vocus, DTCS FAD 2016 Variation Inquiry Draft Report – public submission, pp. 1-2.

<sup>56</sup> While \$52,366 is slightly below the midpoint of the range as depicted, it reflects a price for the Christmas Island service as the product of the current FAD price and the multiple, expressed to a single decimal place, as applied by the ACCC's amended FAD calculator.

**Table 2 – Final regulated access price**

|                         | Current FAD* (A\$) | BROC (A\$) | Lower Bound (A\$) | Final regulated price (A\$) | Upper bound (A\$) | Vocus proposed (A\$) |
|-------------------------|--------------------|------------|-------------------|-----------------------------|-------------------|----------------------|
| Monthly price \$/Gbps   | \$9,187            | \$42,086   | \$42,452          | \$52,366                    | \$62,809          | [c-i-c]              |
| Price (as FAD multiple) | 1.0                | FAD x 4.6  | FAD x 4.6         | FAD x 5.7                   | FAD x 6.8         | [c-i-c]              |

\* price for equivalent mainland service

The ACCC considers this price to be an appropriate estimate for the regulated price, and one that effectively takes account of Vocus' legitimate business interests and the long-term interests of end users.

#### 4.5. DTCS FAD price uplift

The ACCC sought comment on whether the final price should be set as an uplift on the DTCS price.

#### Submissions to the Consultation Paper

In its submission to the Consultation Paper, Vocus indicated that the price for services to Christmas Island should be set through an uplift of DTCS prices for equivalent services on the mainland.<sup>57</sup>

Telstra agreed, stating that the methodology used to price services for Christmas Island should be transparent and consistent with the ACCC's approach for pricing other undersea cables. It believed that this would ensure certainty and predictability around pricing decisions, which is important for encouraging future investment.<sup>58</sup>

#### ACCC Draft Report

DTCS services from mainland Australia to Christmas Island consist of both a land component and a subsea cable component. The ACCC accepted that the costs of the undersea component are higher than the costs on mainland routes of similar distance and capacity. Among other things, this is due to the specialised nature of submarine cables and associated transmission equipment and the need for greater levels of operating and maintenance expenditure.

In the BROC, the interim price for the Christmas Island service was based on an uplift to the current FAD price. Vocus has proposed that the final price also be based on the application of an uplift factor.

The ACCC noted that, in both the 2012 and 2016 FADs, an uplift was applied to the subsea component for mainland-to-Tasmania services in recognition of higher costs incurred in provisioning and maintaining the undersea cable link across the Bass Strait.<sup>59</sup>

<sup>57</sup> Vocus, DTCS FAD Inquiry Consultation Paper – confidential submission, p. 11.

<sup>58</sup> Telstra, DTCS FAD Inquiry Consultation Paper – public submission, p. 15.

<sup>59</sup> ACCC, Final Report – DTCS FAD Inquiry, April 2016, p. 89.

Accordingly, based on its past practices, the ACCC proposed to set the final price for the Christmas Island service as an uplift over the current FAD price.

For a price of \$46,695 per Gbps per month, which equates to 5.1 times the current FAD price, the uplift factor would be 410 per cent. This is slightly higher than the 360 per cent uplift in the BROCC.

The uplift is only applicable to the undersea proportion of the link between mainland Australia and Christmas Island and is to be expressed as a multiple of the existing price for an equivalent 2,600 km mainland regional DTCS service.

#### Application of uplift to services of all capacities

The Vocus model is based on the determination of prices for services of [c-i-c].

The ACCC is aware that [c-i-c].

The 2016 FAD calculator captures the scale efficiencies associated with supplying higher capacity services. It reflects the fact that the unit price of services falls in relative terms as capacity increases.

The ACCC considered that a fixed uplift applied to the outcome of the 2016 FAD calculator for a 2,600km service at the appropriate capacity would adequately reflect the relative differences in the unit prices of those services, based on capacity.

The ACCC therefore resolved that the proposed 410 per cent uplift for the Christmas Island service will apply to all DTCS capacities for which price is regulated (that is, from 2Mbps to 1Gbps).

#### Formula to determine the price of the Christmas Island service

As the Christmas Island service is provided via Perth, (Shenton Park) WA, its total price was proposed to be calculated as the sum of two parts, as per the following formula:

$$\text{The price for the Christmas Island service} = \text{DTCS FAD price}_{A-S} + 5.1 \times \text{DTCS FAD price}_{2600}$$

where:

- **DTCS FAD price**<sub>A-S</sub> is the price that will result from the application of the 2016 DTCS pricing model to a service of the required data rate, provided over a route of distance equal to the radial distance between the A-end of the service and the location of the Vocus datacentre in Shenton Park, Western Australia.
- **DTCS FAD price**<sub>2600</sub> is the price that will result from the application of the 2016 DTCS pricing model to a service of the required data rate, provided over a regional route for a notional distance of 2600km.

### **Submissions to the Draft Report**

Stakeholders did not make any further comment about this matter

### **ACCC Final Decision**

Based on the revised final monthly price of \$52,366 per Gbps for the Christmas Island service, the ACCC's Final Decision is that this price be set as an uplift of 470 per cent of the price for an equivalent mainland DTCS service and that this uplift will apply to all capacities for which price is regulated (that is, from 2Mbps to 1Gbps).

The total price for the Christmas Island service will be determined as per the following formula:

$$\textit{The price for the Christmas Island service} = \textit{DTCS FAD price}_{A-S} + 5.7 \times \textit{DTCS FAD price}_{2600}$$

where:

- **DTCS FAD price**<sub>A-S</sub> is the price that will result from the application of the 2016 DTCS pricing model to a service of the required data rate, provided over a route of distance equal to the radial distance between the A-end of the service and the location of the Vocus datacentre in Shenton Park, Western Australia.
- **DTCS FAD price**<sub>2600</sub> is the price that will result from the application of the 2016 DTCS pricing model to a service of the required data rate, provided over a regional route for a notional distance of 2600km.

## 5. Terms of access

### **Key Points**

- The ACCC will vary the 2016 DTCS FAD, incorporating a monthly price of \$52,366 per Gbps for the DTCS service to Christmas Island.
- This price will be expressed and set as an uplift of 470 per cent on the current FAD price on the subsea component of the service.
- The varied 2016 DTCS FAD will take effect from 19 December 2019.

### 5.1. Regulated price and access terms

The ACCC will vary the 2016 DTCS FAD to incorporate a monthly price of \$52,366 per Gbps for the subsea component of DTCS services to Christmas Island. It will be expressed and set as an uplift of 470 per cent on the current FAD price. This uplift will apply to all DTCS capacities between 2Mbps and 1Gbps inclusive.

The ACCC considers that this new price:

- accounts for the higher costs in providing services via an undersea cable to Christmas Island
- reflects a price which will allow Vocus to recover those costs and earn an appropriate rate of return
- ensures that unregulated transmission services will make an equitable contribution to the cost of the infrastructure, and
- takes into account the legislative criteria including the LTIE and Vocus' legitimate business interests.

The varied 2016 DTCS FAD will take effect from 19 December 2019 and expire on the day before a new DTCS FAD is made.

A copy of the variation instrument can be found at Appendix 2.

The ACCC has decided that the non-price terms specified in the 2016 DTCS FAD will apply to the services provided via the Christmas Island route.

### 5.2. 2020 FAD

The ACCC expects to publish its Draft Report on the new DTCS FAD in early 2020. The regulated price and other terms of access for the Christmas Island service will be incorporated in the 2020 FAD. However, if further information or evidence is provided to the ACCC that would support a review of the final price, it will consider that information before making its final decision on the new FAD.

## 6. Assessment for varying the 2016 DTCS FAD against the legislative framework

### **Key Points**

- The regulated price for the DTCS service to Christmas Island is in the long-term interests of end users and reflects the legitimate business interests of Vocus as the access provider.
- The cost-reflective access price will encourage the efficient use of the Christmas Island spur and encourage further investment in infrastructure.

The ACCC has taken into account the matters set out in subsection 152BCA(1) of the CCA in finalising the 2016 FAD variation. These matters are described in Section 3.3 of this Final Report.

In particular, it notes the following matters:

- whether the FAD variation will promote the LTIE
- the legitimate business interests of Vocus, and Vocus' investment in facilities used to supply the declared service
- the interests of access seekers who have a right to use the declared service
- the direct costs of providing access to the declared service, and
- the economically efficient operation of carriage services, telecommunications networks or facilities.

The ACCC does not consider the following factors set out in subsection 152BCA(1) to be relevant to the 2016 FAD variation terms:

- the value to a person of extensions, or enhancement of capability, whose cost is borne by someone else, and
- the operational and technical requirements necessary for the safe and reliable operation of a carriage service, a telecommunications network or facility.

This section is to be read together with the ACCC's specific analysis in sections 4 and 5 of this Final Report.

### 6.1. Promotion of the long-term interests of end-users

In considering whether to vary a FAD, the ACCC must have regard to whether it would promote the LTIE of carriage services, or services provided by means of carriage services.

To determine whether a particular thing promotes the LTIE, the ACCC must have regard to the extent to which it is likely to result in the achievement of the objectives of:

- promoting competition in markets for carriage services, or services provided by means of carriage services.
- achieving any-to-any connectivity in relation to carriage services that involve communication between end-users.

- encouraging the economically efficient use of, and economically efficient investment in, infrastructure by which listed services are supplied and any other infrastructure by which listed services are, or are likely to become capable of, being supplied.<sup>60</sup>

The ACCC considers that the 2016 FAD variation promotes the LTIE by achieving two of these objectives.

### **6.1.1. Promoting competition**

The ACCC recognises that the price for transmission services is generally regarded as an obstacle to service providers being able to offer lower prices to end-users, particularly in regional areas where there are fewer access providers offering transmission services. In the absence of a regulated price, high wholesale prices:

- discourage service providers from seeking access to the infrastructure, and
- impede competition in related downstream markets and result in higher prices for end users.

The ACCC is of the view that the markets relating to the DTCS to Christmas Island are those for which the DTCS is an essential input. These include downstream markets for:

- wholesale services such as the mobile backhaul and carrier transmission, and
- retail services such as voice and data.

The ACCC notes that with a single provider to Christmas Island, competition for transmission services is limited. It expects the regulated price in the 2016 DTCS FAD variation would likely put downward pressure on wholesale transmission prices and promote competition in those DTCS related markets by:

- removing a barrier to entry for potential new service providers, enabling them to gain access to transmission services at more efficient prices, and
- increasing the level of competition in downstream markets, enhancing choice and reducing the price of retail communications services for end-users such as government agencies, businesses and residential customers on Christmas Island.

### **6.1.2. Economically efficient use of and investment in infrastructure**

The ACCC concluded that the regulated price in the current DTCS FAD is significantly less than the cost of supplying the DTCS to Christmas Island. It considered that if the price for access to the submarine cable was set at this level:

- Vocus' ability to compete with other access seekers in the related downstream markets would be constrained. In turn, this would likely lead to an inefficient allocation of the capacity of the cable, and
- Vocus would have little incentive to maintain, upgrade and expand the infrastructure.

The ACCC considers that the regulated price for the Christmas Island service in the 2016 DTCS FAD variation reflects the cost of supply. It believes that this price should encourage the economically-efficient use of the infrastructure by allocating transmission capacity in the cable to its highest value use, allowing Vocus to compete effectively with other access seekers in downstream markets.

In addition, the ACCC is of the view that this price will allow Vocus to recover its capital and operating expenditure and generate an appropriate return on its investment. In turn, this

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<sup>60</sup> CCA, s. 152AB.

should provide it with sufficient incentives for continued maintenance and further investment in the cable.

The ACCC also notes that efficiently-priced access to transmission services may create incentives for retail service providers to expand or upgrade other infrastructure on Christmas Island.

Accordingly, the ACCC is of the view that the 2016 DTCS FAD variation encourages the efficient use of, and investment in, Vocus' under-sea infrastructure that is used to supply the DTCS to Christmas Island.

## 6.2. Vocus' legitimate business interests

The ACCC is of the view that the legitimate business interests relating to the price of the DTCS to Christmas Island relate to Vocus' interest in recovering its costs and earning an appropriate return on its investment, having regard to the relevant risk of that investment.

In its assessment of those legitimate business interests, the ACCC has had regard to what it sees as necessary to maintain those interests. In doing so, it has assessed:

- the capital cost of the marine cable to Christmas Island
- the annual costs associated with operation of the cable, [c-i-c]
- the share of common capital and operating costs allocated from the ASC, and
- an appropriate cost of capital, [c-i-c].

The ACCC believes that the regulated price in the 2016 DTCS FAD variation takes account of the specific costs and associated risks of delivering services over a subsea link. In doing so, it considers that the regulated price effectively addresses the material disparity between the costs that Vocus incurs in providing the Christmas Island service and current pricing under the 2016 DTCS FAD, and ensures that Vocus' legitimate business interests are accounted for.

## 6.3. The interests of all persons with a right to use the service

The ACCC notes that the persons with the right to use the service who will be impacted by the 2016 DTCS FAD variation are access seekers purchasing the DTCS to Christmas Island. The ACCC considers that the interests of these access seekers will be promoted by the regulated price in the 2016 DTCS FAD variation.

The Christmas Island service has monopoly characteristics, and falls within the DTCS service description. The purpose of the declaration is to facilitate access to monopoly infrastructure in order to promote competition in downstream markets.

In setting the regulated access price, the ACCC has sought to strike a balance between the preservation of the access provider's legitimate business interests and the need for access seekers to acquire the wholesale input at a rate that allows them to compete in related retail and wholesale markets.

The ACCC is satisfied that the proposed regulated rate in the 2016 DTCS FAD variation will not preclude access seekers from competing in downstream markets.

## 6.4. The direct costs of providing access to the declared service

Identifying the costs directly incurred in providing the Christmas Island service has been a primary consideration for ACCC in determining the regulated price in the 2016 DTCS FAD.

In conducting its analysis, the ACCC has relied primarily on economic and financial information provided by Vocus, along with key assumptions in the Vocus financial model.

The ACCC benchmarked this data against relevant publicly-available information. While accepting most of the proposed directly-attributed costs, it made adjustments, for example to incorporate a WACC **[c-i-c]**.

In recognition of modelling uncertainty, the ACCC also considered a range of regulated prices from the model, based on different assumptions about future price behaviour. The lower bound price was based on its own view of how prices would evolve, given market characteristics and conditions, while the upper bound was adopted after considering the reasonableness of Vocus' own price path assumption. The regulated price of \$52,366 per Gbps, contained in the 2016 DTCS FAD variation, is at the midpoint of that range.

The ACCC is of the view that this price will allow Vocus to recover all of the direct costs it incurs in providing access to the declared Christmas Island service.

## 6.5. The economically efficient operation of carriage services, telecommunications networks or facilities

In section 6.1.2, the ACCC indicated it was of the view that the 2016 DTC FAD variation would encourage the economically efficient use of, and economically efficient investment in, infrastructure. It considers that these reasons would also apply to the economically efficient operation of services, networks and facilities.

## Appendix 1 – List of submissions

### **DTCS FAD Inquiry Consultation Paper**

Optus, Submission in response to ACCC Consultation Paper – Domestic Transmission Capacity Service Final Access Determination Inquiry (public version), July 2019.

Optus, Submission in response to ACCC Consultation Paper – Domestic Transmission Capacity Service Final Access Determination Inquiry (confidential version), July 2019a.

Pivotel, Response by Pivotel – ACCC Domestic Transmission Capacity Service Final Access Determination Inquiry Consultation Paper, July 2019.

Telstra, Submission to ACCC – Domestic Transmission Capacity Service Final Access Determination Consultation Paper (public version), July 2019.

Telstra, Submission to ACCC – Domestic Transmission Capacity Service Final Access Determination Consultation Paper (confidential version), July 2019a.

Vocus, Submission to ACCC – Domestic transmission capacity service final access determination inquiry (public version), July 2019.

Vocus, Submission to ACCC – Domestic transmission capacity service final access determination inquiry (confidential version), July 2019a.

Vodafone Hutchison Australia, Submission - Domestic transmission capacity service final access determination inquiry consultation paper (public version), July 2019.

Vodafone Hutchison Australia, Submission - Domestic transmission capacity service final access determination inquiry consultation paper (confidential version), July 2019a.

### **2016 DTCS FAD Variation Inquiry Draft Report**

Telstra, Response to ACCC's 2016 FAD Variation Inquiry Draft Report on DTCS Pricing to Christmas Island, November 2019.

Vocus, Submission to ACCC – DTCS FAD 2016 Variation Inquiry Draft Report (public version), November 2019.

Vocus, Submission to ACCC – DTCS FAD 2016 Variation Inquiry Draft Report (confidential version), November 2019a.

## Appendix 2 – FAD Variation Instrument

### Variation instrument

#### COMPETITION AND CONSUMER ACT 2010

Variation of Final Access Determination No. 1 of 2016 made under section 152BC by the Australian Competition and Consumer Commission

#### Application of DTCS FAD terms to declared routes and ESAs

##### 1. Title

This Determination may be cited as:

Final Access (Variation) Determination No. 8 of 2019 (DTCS)

##### 2. Commencement

This Determination comes into effect on 19 December 2019.

##### 3. Variation

Final Access Determination No. 1 of 2016 (DTCS) is hereby varied as set out below:

Schedule 1 – Definitions and Interpretation is amended to include the following terms:

**A-end of the Christmas Island Service** means a location anywhere in Australia (with exception of Christmas Island) where the access seeker's network interconnects with the access provider's network for the purpose of the supply of the Christmas Island Service.

**Christmas Island** means the Australian External Territory of Christmas Island

**Christmas Island ESA** means the ESA of Christmas Island

**Christmas Island Service** means a DTCS provided between the Christmas Island ESA and any other ESA in Australia

**DTCS FAD prices** means the prices or method to ascertain prices for access to DTCS as set out in the ACCC Final Access Determination No. 1 of 2016 (DTCS)

Schedule 2 – Price

Clause 2.2 is amended as follows:

2.2 The charge for the DTCS, other than the Christmas Island Service, supplied for a period of 12 months is to be ascertained by multiplying the monthly price determined by the formula in Table 1 by 12 and adding the non-recurring charges set out in Table 2 below.

Note: A DTCS Pricing Calculator that can be used to ascertain the price for a particular Service in accordance with Table 1 can be found on the ACCC website ([www.accc.gov.au](http://www.accc.gov.au)).

Clause 2.6 is amended as follows:

2.6 The charge for the Christmas Island Service is the corresponding DTCS FAD price for a service between the A-end of the service and the Vocus datacentre in Shenton Park, Western Australia at the required data rate plus an uplift of 470% on the DTCS FAD price for a service provided over a regional route of 2600km at the required data rate, in accordance with the formula set out in Table 1.2 below:

Table 1.2: Price terms for the Christmas Island Service

The price for the Christmas Island Service = DTCS price<sub>A-S</sub> + 5.7 x DTCS FAD price<sub>2600</sub>

where:

- DTCS price<sub>A-S</sub> is the DTCS FAD price for a service between the A-end of the service and the Vocus datacentre in Shenton Park, Western Australia at the required data rate.
- DTCS FAD price<sub>2600</sub> is the DTCS FAD price for a regional service having radial distance of 2600km at the required data rate.
- The charge for the Christmas Island Service derived from the formula in Table 2 above is a maximum charge for that DTCS.

Clause 2.6 is renumbered as Clause 2.7

Date of decision: 11 December 2019