



TELSTRA CORPORATION LIMITED

**Telstra submission in reply to SingTel Optus' submissions to
the Australian Competition and Consumer Commission on
Telstra's application for exemption from standard access
obligations in respect of the SingTel Optus HFC network dated
17 December 2007**

Public Version

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Overview

Telstra's exemption application of December 2007 seeks withdrawal from SingTel Optus of regulated access to specified declared services in relation to those premises that are within the footprint of SingTel Optus' HFC network. The granting of this exemption will promote investment, enhance infrastructure-based competition and help secure Australia's broadband future for the long term benefit of consumers

Continuing to allow SingTel Optus to have the crutch of resale-based and quasi-facilities based access (at regulated prices) disincentivises them from engaging in full-facilities based competition, and will see the community forgo the benefits to competition and consumers that flow from that. Full facilities-based competition becomes ever more important in the evolution from the old PSTN world into the multi-service, high speed, convergent world of the NGN, which we are now on the threshold of entering. As Professor Cave says¹:

In many countries, the most likely source of NGA competition is the existing cable network. The best outcome for consumers would be a race to upgrade to NGAs between the incumbent telco deploying FTTN or FTTC networks and the cable operator moving to DOCSIS 3, which supports much higher speed and higher quality services.

SingTel Optus' stance on utilisation and enhancement of its existing HFC network shows that the crutch of convenient regulated access to Telstra's network has resulted in its HFC network business:

- relying on 1990s era cable broadband technology;
- supplying telephony with a technology which even its manufacturer regards as obsolete;
- using business rules about connectability of premises which have not been updated in at least 5 years;
- pleading grievances about market conduct from 13 years ago.

Australia is the only country in the world with significant cable network infrastructure in which its cable operator is not engaged in a headlong investment race against the incumbent. SingTel Optus is the only cable operator in the world which is a significant user of regulated access services within its network footprint. While overseas cable operators have upgraded their cable networks to speeds of 50 – 100 Mb, SingTel Optus is the biggest user of Telstra's unbundled local loop services (including where this overlaps with the area covered by its own HFC network).

Clearly, something has gone wrong. The menagerie of technical, commercial and competition excuses offered by SingTel Optus does not stack up. Overseas cable operators often face market conditions less favourable than those that SingTel Optus cites as reasons for its inability to even fully utilise (let alone upgrade) its cable network in Australia. For example:

- many overseas cable operators successfully compete with smaller actual and potential cable customers bases than SingTel Optus;

¹ Martin Cave, 'Applying the Ladder of Investment in Australia', December 2007 (Cave First Report) p 6.

- SingTel Optus is the only significant competing operator to combine a cable network with a national backbone network, an international network, a mobile network, a business FTTP network and a satellite network,² giving it a far broader base from which to compete;
- overseas cable operators successfully compete in markets where they do not have the historical legacy of a ubiquitous pay TV customer base;
- overseas cable operators successfully compete in markets where they face strong alternative pay TV providers;
- overseas cable operators successfully compete in markets where there are two or more overlay HFC networks; and
- overseas cable operators successfully compete in markets where they face competition from an incumbent with two fixed networks of its own e.g. its copper network and an overlay FTTP.

Regrettably, SingTel Optus has not been responsive to the key questions raised by this exemption application:

- We do not yet know on what criteria it decides whether homes are HFC-serviceable.
- We do not know whether it decides between HFC and ULL on the basis of serviceability alone, or on the basis of comparative cost.
- We do not even know how many homes are passed and serviceable by its cable, because its databases have been so neglected.

If the Commission is not already convinced of the need to grant this exemption, it must require SingTel Optus to answer these questions in order to get to the heart of the problem of why SingTel must rely on regulated access to Telstra's network in areas where it has deployed an end to end network of its own. Telstra has put forward strong evidence under cover of this submission (and its previous submissions) from some of the world's leading economic and technical experts setting out the benefits of removing the shackles of regulation in the footprint covered by SingTel Optus' HFC and why the adverse consequences of ongoing regulation in these areas are entrenching a static industry framework and an under-utilised network that has been allowed to atrophy. In the dynamic, bandwidth hungry world of the NGN this state of play is an over-indulgence that can no longer be afforded by Australian consumers.

² Rogers in Canada comes close to having the same range of networks, but does not own a satellite system.

1 Introduction

- 1 This submission responds to the SingTel Optus' submissions of March 2008 and May 2008 in relation to Telstra's application for exemption from supply of specified declared services to SingTel Optus within the existing footprint of its HFC network.
- 2 It is structured as follows:
 - **Part 2** discusses how SingTel Optus' decisions about serviceability appears to be based on business case assumptions which are 5 or more years out of date;
 - **Part 3** shows how the technical and service shortcomings of its HFC network identified by SingTel Optus are attributable to its own failure to invest;
 - **Part 4** responds to SingTel Optus' arguments that low penetration of pay TV and cable overbuild are to blame;
 - **Part 5** responds to SingTel Optus' arguments that the exemption is not in the LTIE; and
 - **Part 6** responds to SingTel Optus' procedural arguments.
- 3 Four leading experts have provided reports which lend support to this submission:
 - Michael Harris (**Appendix A**) responds to the technical issues raised by SingTel Optus;
 - Professor Martin Cave (**Appendix B**) responds to arguments raised by SingTel Optus in relation to his first report and considers the relevance of the overbuild of the SingTel Optus HFC network by the Telstra HFC network;
 - Jeff Eisenach (**Appendix C**) reviews lessons which can be drawn from the experience of the cable industry and competitive infrastructure in the US, including the experience of cable operators competing against incumbents with two overlay access networks – their traditional copper networks and a new FTTP;
 - Henry Ergas (**Appendix D**) addresses whether the granting of the exemption sought by Telstra would be in the long term interests of end users (LTIE).
- 4 **Confidential Attachment 1** responds in further detail to issues raised by SingTel Optus' confidential information. This Attachment is confidential and should be accessed only by the Commission, SingTel Optus, Telstra (in part) and Telstra advisers who have signed the confidentiality agreement with SingTel Optus.

2 Regulated access has allowed SingTel Optus to stop thinking about its HFC network

- 5 Based on its submissions to the Commission, the most striking thing about SingTel Optus is that it appears to make decisions on the feasibility of connecting customers to its HFC network based on analysis that is 5 to 10 years old. For example:
- “The decision to not activate the cable in [inactive areas] was taken well before ULLS became commercially viable in **2003**. It follows that activation was not commercially attractive in these areas regardless of the availability of the ULLS.”³
 - “..MDUs were judged to be unserviceable on the basis of a commercial analysis undertaken in **April 2000**”⁴
 - “Optus notes that in **2002**, following a strategic review of the consumer business, a decision was taken to write down the value of the HFC network by AUD1,384 million, to a carrying amount of AUD837 million. This decision demonstrates that the HFC network has not produced a return on investment that was expected and casts further doubt on the proposition that the proposed exemption would motivate Optus to invest in its HFC network”.⁵
 - “..the decision not to serve commercial premises was taken in **1999**”⁶
 - “..Optus has consistently maintained an internal Business Rule to maintain the preference for HFC service over DSLAM services. ...[when Optus personnel enter an order] ...[t]he IT system then calls the existing serviceability database to establish whether the address can be serviced for the Optus HFC products (OTV, LAT and HSD). The serviceability information in this database was originally determined by “street walks” carried out by Customer Field technicians to determine if homes could be serviced.”⁷ Optus does not directly say how old this serviceability information is but it appears to have been collected “**some years ago**.”⁸
 - SingTel Optus acknowledges that the figure of 2.2 million probably understates the number of homes passed: “[this] information ... represents the most comprehensive information held by Optus ...[h]owever, the original data on which these records were based was collected some years ago and so **might not be accurate as to the current situation**..”⁹ Apparently, SingTel Optus does not say whether its outdated

³ SingTel Optus, ‘*Optus Submission to Australian Competition and Consumer Commission on Telstra’s December 2007 Exemption Application for Fixed Line Services in the Optus HFC Area*’, March 2008 (SingTel Optus March 2008 Submission), para 2.35.

⁴ SingTel Optus, ‘*Optus Supplementary Submission to Australian Competition and Consumer Commission on Telstra’s December 2007 Exemption Application for Fixed Line Services in the Optus HFC Area*’, May 2008 (SingTel Optus May 2008 Submission), para 2.27.

⁵ SingTel Optus March 2008 Submission, para 3.28.

⁶ SingTel Optus May 2008 Submission, para 3.20.

⁷ SingTel Optus May 2008 Submission, para 2.35.

⁸ SingTel Optus May 2008 Submission, para 4.5.

⁹ SingTel Optus May 2008 Submission, para 4.5.

serviceability database classifies these new addresses as serviceable or not.

(emphasis ours)

- 6 SingTel Optus puts forward this information in support of its assertion that “key serviceability decisions for the HFC network were made well before the rollout of the DSLAM network.”¹⁰ That’s beside the point: Telstra’s case is how the availability of regulated access affects SingTel Optus’ current and future behaviour, which impacts the interests of end users. The more telling revelation from these arguments is that SingTel Optus continues to make serviceability decisions in today’s market based on assumptions formed 5-10 years ago. It is not credible, given the magnitude of the changes in telecommunications markets and HFC technologies in the last 3-5 years, that an efficient operator could make decisions in this way. SingTel Optus has been able to avoid updating its business rules and assumptions (some of which may well have been made before ULLS was declared) because it has been able to rely on the crutch of convenient, favourable regulated access to an alternative network.

- 7 In recent years, the biggest change in telecommunications markets has been the explosion in broadband demand. Broadband is unlikely to have formed part of the original HFC business case back in the mid 1990s and is upside for SingTel Optus:
 - in 1995, internet access was mainly available to residential customers on a dial up basis. There were no DSL or cable modem services;
 - by 2003/4, ADSL and cable modems had become available. The maximum speed for cable was 9 Mbps and for ADSL was 8 Mbps. However, a more typical broadband speed was 256 or 512 kbps downstream and 64 or 128 kbps upstream;
 - In 2003, when SingTel Optus last appears to have considered its position on the serviceability of MDUs, Australia’s broadband penetration was 3.5%.¹¹ By 2007, it had grown to 23.3%¹² across the country, and 46% in metropolitan areas;¹³
 - SingTel Optus’ cable modem subscriber base has grown rapidly, from just 96,000 in March 2003 to 412,000 in March 2008;¹⁴
 - Its overall HFC penetration rate has also grown¹⁵ (see Confidential Attachment 1);

¹⁰ SingTel Optus May 2008 Submission, para 2.27.

¹¹ OECD, Directorate for Science, Technology and Industry, OECD Broadband Statistics to December 2006, http://www.oecd.org/document/7/0,3343,en_2649_34223_38446855_1_1_1_1,00&&en-USS_01DBC.html.

¹² OECD, Directorate for Science, Technology and Industry, Broadband Subscribers per 100 Inhabitants, December 2007 http://www.oecd.org/document/54/0,3343,en_2649_33703_38690102_1_1_1_1,00.html.

¹³ Australian Bureau of Statistics, Pattern of Internet Access in Australia, 8146.0.5.5.001, November 2007 (based on 2006 census data)

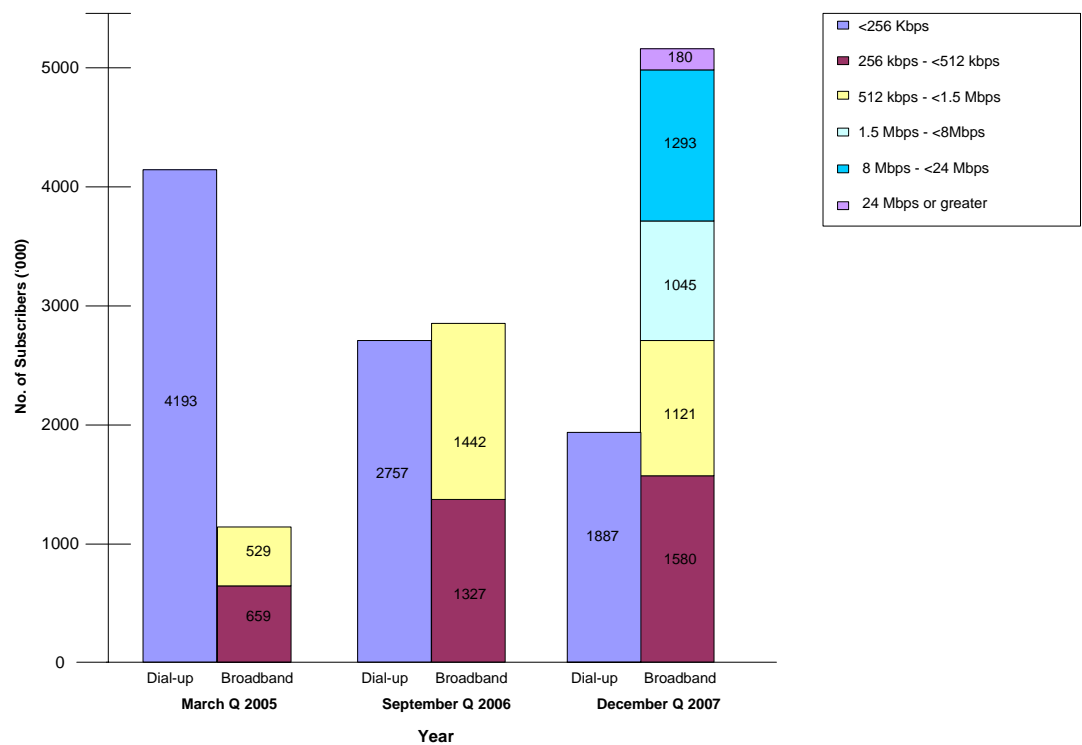
<http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/8146.0.5.5.001Main+Features12006?OpenDocument>

¹⁴ See SingTel, *Management Discussion and Analysis of Financial Condition and Results of Operations for the Fourth Quarter and Year Ended 31 March 2004*, p 45; and SingTel, *Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows for the Fourth Quarter and Financial Year Ended 31 March 2008* at p 49.

¹⁵ See SingTel, *Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows for the Fourth Quarter and Financial Year Ended 31 March 2008* at p 49

- Bundling of telephony and high-speed broadband has also become a key driver of customer acquisition, giving SingTel Optus as a long-standing telephony provider significant opportunities to exploit its bundling capabilities (see Confidential Attachment 1)
- 8 The broadband explosion has spawned significant opportunities for both further uptake in broadband services and growth in ARPU. In the last 3-4 years, a whole new generation of bandwidth hungry Web 2.0 applications have emerged which are driving demand for higher priced, higher speed services. For example, YouTube, a company which did not exist 4 years ago, now accounts for more capacity than the entire global internet in 2000.¹⁶
 - 9 Australians are rapidly migrating to higher speed services for which HFC networks are well suited. As at December 2007, 1.5 million broadband subscribers connect at broadband speeds greater than 8 Mbps – a category the Australian Bureau of Statistics did not even measure one year previously.¹⁷ As Figure 1 shows, while demand for entry-level broadband grows, customers are also moving on to speeds at the higher end – from 1.5 Mbps up.¹⁸

Figure 1: Higher demand for higher speed internet in Australia



Source: Australian Bureau of Statistics data, Internet Activity, December 2007. Due to measurement limitations prior to 2007, the 512 kbps – 1.5 Mbps category before December 2007 includes services >1.5 Mbps.

¹⁶ Lohr, Steve 'Video Road Hogs Stir Fear of Internet Traffic Jam', New York Times, March 13, 2008 (available at: http://www.nytimes.com/2008/03/13/technology/13net.html?_r=1&pagewanted=print&oref=slogin).

¹⁷ The Australian Bureau of Statistics refers to broadband as an "always on" internet connection with an access speed equal to or greater than 256 kbps.

¹⁸ Note that the ABS did not report figures for speeds 1.5 Mbps and above for the March Quarter 2005. In the upper range (greater than 1.5 Mbps) the profile further underscores the growth in demand for high speeds. The largest group enjoys speeds of 8 – 24 Mbps.

- 10 The explosion in demand for high speed broadband, has coincided with significant decreases in the costs of providing these services on HFC networks, especially with the development of DOCSIS 2 and DOCSIS 3 and cable-based Voice over Broadband (VoB) technologies. In his expert report, Jeff Eisenach notes,¹⁹ “the impact of these changes on the economics of HFC infrastructures has been profound”, a view supported by the Canadian Government’s recent telecommunications inquiry, which noted²⁰:

Profound changes are taking place in network economics in relation to both capital and operating expenses. IP makes it possible to merge all services on the same infrastructure and the same logical network (the latter is often referred to as a “platform” for the different services it supports). This has the potential to significantly reduce the amount of capital that is required to build and maintain facilities. It also allows for better management of operating costs. The cable industry’s rollout of IP-based voice services provides an example of the economic advantages of IP-based networks. Cox Communications, a U.S. cable company, estimates that the cost of deploying IP-based voice technology – US\$267 per customer – is approximately half the cost of deploying traditional circuit switched technology – US\$527 per customer.

- 11 In short, SingTel Optus’ assertions that it “currently does not use the Telstra fixed line network to provide services to premises that are serviceable by the Optus HFC network footprint”²¹ begs the question whether, if SingTel Optus reassessed its serviceability criteria in today’s market, SingTel Optus would find a much higher percentage of its HFC network homes passed is serviceable. In his attached report, Harris comments:²²

in my opinion, it would not be sound practice to rely on a decision taken five years ago as the basis for continuing to regard such a significant proportion of premises as “unserviceable”. If I were the engineer responsible for the Optus HFC network, I would review the decision not to service the 36% of homes passed by my network.

- 12 It is clear that SingTel Optus has been a bystander in the face of recent market developments. The crutch of convenient, favourable access to Telstra’s network on regulated terms has reduced the need for SingTel Optus to reassess its HFC business and has in turn reduced its incentives to fully utilise and invest in this network – to the ultimate detriment of the LTIE.

¹⁹ Jeffrey Eisenach, ‘Expert Report – Comparative Analysis of Communications Markets as it Relates to the Economic Viability of Optus’ HFC Network and Telstra’s Proposed HFC Exemption’, (Eisenach Report), para 28.

²⁰ Telecommunications Policy Review Panel, Final Report, March 2006, p. 1-25.

²¹ SingTel Optus March 2008 Submission, para 2.21.

²² Michael Harris, ‘Expert report – Issues arising from Optus’ submissions on Telstra’s proposed HFC exemption’ (Harris Second Report), para 5.12 – 5.13.

3 Technology and service issues are no excuse

- 13 In this Part, we consider whether the technical and service constraints SingTel Optus says it faces on its HFC network explain its high usage of regulated access services within the network footprint.

3.1 HFC remains a leading edge technology

- 14 There is no sound technical reason why an HFC network cannot compete with a PSTN. SingTel Optus says that “HFC may have been a leading edge technology in the mid 1990s but it may no longer be so.”²³ This is demonstrably wrong. In SingTel’s own home market of Singapore, the HFC network delivers speeds of 100 Mbps compared to the top speed of 24 Mbps on the SingTel Optus DSL network. As Professor Cave, Eisenach and Harris each note in their annexed statements, HFC networks are outpacing copper networks in their ability to deliver very fast broadband speeds and in delivering new generation VoB telephony services. Eisenach found that:²⁴

... firms using HFC infrastructures (cable companies) compete successfully against traditional telephone companies, satellite providers and other communications providers in the United States and around the world. Indeed, in the U.S. and elsewhere, cable companies are the leading providers of video and broadband services, and are rapidly increasing their shares of the market for voice telephony.

- 15 It is crucial, in other words, to distinguish between a failed technology – which HFC plainly is not – and a failed corporate strategy. In this case, regulation has not merely supported such a failed strategy, but actively promoted it.
- 16 Even though it is using 1990s era technology, the SingTel Optus HFC network nonetheless shows it is still fit for purpose, particularly on broadband services. Its publicly reported penetration rate is 38% (see also Confidential Attachment 1). Again, the question is how much more could it achieve if, like Virgin Media in the UK and StarHub in Singapore, it sought to open a speed gap between DSL and HFC?

3.2 Under-investment results in under-utilisation

- 17 Not only is HFC technology generally more than capable of competing with a PSTN, the specific HFC network SingTel Optus deployed is also capable of competing with Telstra’s PSTN. To the extent SingTel Optus bemoans its network’s technical misfortunes; it must lay the blame on its own failure to invest in and upgrade its network. Harris, who has had extensive experience of HFC network design and operation in the US and elsewhere, expressed surprise at SingTel Optus’ description of the sorry state of its HFC network:²⁵

On reading the Optus Submission, I was struck by the description of the state of the network in terms of investment in technology. One of my visits to Australia was in 1996 and at that time, Optus was in the process of deploying a largely

²³ SingTel Optus March Submission, para 4.12.

²⁴ Eisenach report, para 13.

²⁵ Harris Second Report, para 3.1.

state-of-the-art HFC network. That Optus has chosen to allow its network to fall so far behind normal industry practice, was a surprise to me.

- 18 It is telling that in support of SingTel Optus' claim that it maintains a "program of investment in the HFC network", SingTel Optus only points to three relatively small projects since 2004.²⁶ SingTel Optus does not reveal the total quantum of its capital investments since 2004, however the fact that SingTel Optus singles out an ongoing cost of \$150,000 to \$200,000 a year²⁷ to increase capacity and allow new customers to be connected is symptomatic of the lack of real investment incentives that SingTel Optus faces under the current regulatory settings. The investments SingTel Optus refers to demonstrably do not support SingTel Optus' claim that it has "continued to make substantial investments in its HFC network even after ULLS became commercial viable in 2003."²⁸
- 19 SingTel Optus apparently is not even prepared to spend capital on its HFC network to meet identifiable demand for its services or to better utilise existing capacity. Three examples leap out of the SingTel Optus submissions:
- *Node splitting*: SingTel Optus lists as a technical constraint the fact that some nodes are traffic saturated and that further growth can only come via investment in node splitting.²⁹ What Optus does not say is that node splitting is a common response in cable networks as the subscriber base and demand grow. As Harris notes,³⁰ "what Optus apparently sees as a troublesome and expensive problem, would be treated by [cable operators] in the US as a sign of success." In his report, Harris sets out how node splitting can be readily and cost effectively achieved.³¹
 - *Channel capacity*: in his initial report, Harris noted that the HFC networks in Australia have more channel capacity for higher grade data services than their US counterpart because they do not have to carry analog and digital TV signals.³² SingTel Optus acknowledges there is more available spectrum on its HFC network, but this is unusable "unless the CMTSs (Cable Modem Termination Systems) are upgraded to DOCSIS 3.0 and channel bonding is available for the downstream data".³³ The Harris report notes that as SingTel Optus has waited so long, it has the chance now to "'leap frog' from DOCSIS 1.1 to DOCSIS 3.0"³⁴. In his first report, he assessed the investment required by SingTel Optus for an upgrade to DOCSIS 2.0 to be approximately \$275 000³⁵ – a figure that SingTel Optus has not disputed.
 - *MDUs*: SingTel Optus has installed coaxial cable to the common area of 161,000 MDUs, yet apparently does not offer services to those MDUs.³⁶ These customers are apparently served via ULL.

²⁶ SingTel Optus March 2008 Submission, para 4.31.

²⁷ SingTel Optus March 2008 Submission, para 4.31.

²⁸ SingTel Optus March 2008 Submission, para 4.32.

²⁹ SingTel Optus March 2008 Submission, para 2.18(d).

³⁰ Harris Second Report, para 7.2.

³¹ Harris Second Report, paras 7.5 – 7.18.

³² Michael Harris, 'Expert Report – Use of HFC to Deliver Broadband Services' (Harris First Report), para 3.2.

³³ SingTel Optus March 2008 Submission, para 2.18(c).

³⁴ Harris Second Report, p 4, Executive Summary.

³⁵ Harris First Report, p 4, Executive Summary.

³⁶ SingTel Optus March 2008 Submission, p43.

- 20 Again, ULLS and other regulated access services may not have been the original reason SingTel Optus made some of its decisions about serviceability, but that is not the issue in considering whether this exemption is in the LTIE in today's and tomorrow's market conditions. The availability of the easy option of low cost access means that SingTel Optus has had no reason to revisit those assumptions and decisions, in spite of the significant developments in services, technology and other conditions favouring HFC networks over the last 5 years. SingTel Optus is steering its network asset by looking out the rear window at snapshots taken more than five years ago.

3.3 SingTel Optus' serviceability criteria

- 21 SingTel Optus has claimed to have 1.4 million serviceable homes, within a cable footprint of 2.2 million homes, since its rollout was finalised. In these proceedings, it has adhered to these figures, even while acknowledging that they may be outdated.³⁷

- 22 This is the clearest representation yet that SingTel Optus' ability to rely on convenient and favourable regulated access to Telstra's network has seen it effectively abandon infrastructure-based competition using its own network. SingTel Optus asserts that it uses HFC wherever available, but fails to ever modify its view of availability. For example:

- it has not updated its MDU analysis for 5 years or more;³⁸
- it has not apparently updated its database of homes passed or homes serviceable, including for SDUs that may have been built, in the last decade.³⁹ It would appear that, as SingTel Optus is using dated information, these SDUs would be shown as not serviceable when a connection inquiry is made and they could then be connected using regulated access.

- 23 SingTel Optus' rigid "no-connection" policy for MDUs would be surprising to overseas cable operators. Harris comments:⁴⁰

..it would be unusual to regard MDU premises as unserviceable in the North American context. In general, providing HFC network services to MDU is regarded as "low hanging fruit" in that the cost of supplying services to each MDU premise is usually lower than the cost of the provision of services to an SDU on a per subscriber basis.

- 24 SingTel Optus argues that the overseas experience provides no guide because MDUs in Australia are typically smaller than overseas MDUs.⁴¹ However:

- in his annexed report, Harris notes that:⁴²

there are cable systems in the US which have a very similar mix of MDU as those found in Australian suburbs. For example, in Southern California

³⁷ SingTel Optus May 2008 Submission, para 4.2.

³⁸ SingTel Optus May 2008 Submission, para 2.27.

³⁹ SingTel Optus May 2008 Submission, para 4.3-4.4.

⁴⁰ Harris Second Report, para 5.11.

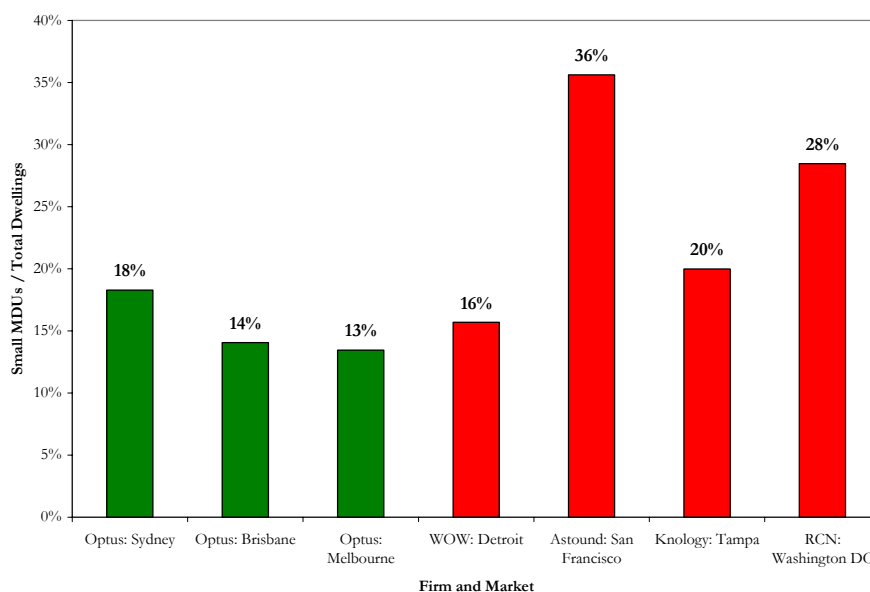
⁴¹ SingTel Optus 2008 Submission, para 3.33.

⁴² Harris Second Report, para 5.2.

there are a significant number of MDU with four and eight premises outside of the downtown areas of Los Angeles;

- SingTel Optus' complaint that "large, high rise apartment buildings are a recent phenomenon" refers to the trend that "entered the market primarily from 1980" – fourteen years before Optus rolled out its cable; and
- in his annexed report, Eisenach⁴³ examined four comparable service areas to those that Optus serves, and found that they generally had higher proportions of "small" MDUs than did Sydney, Melbourne and Brisbane.

Figure 1 – Prevalence of small MDUs = from Eisenach Report⁴⁴



- 25 To a significant extent, the costs of connecting MDUs are proportionate to the size of the MDU, provided an efficient technical solution is being used within the network. In his report, Harris outlines the range of approaches and notes that smaller MDUs can be connected from the distribution cable in much the same way as an SDU without an extensive in-building install:⁴⁵

In general, the approach in the US is to treat 2/4/8/16 unit MDU in the same way as an SDU. The lateral cable connects to each MDU unit or building from the tap and feeds a high speed internet modem which can be equipped for voice services. The coaxial cable feed is split between this device and the television and/or video set top box. The high speed internet modem can be hardwired via an Ethernet cable to the computer or the modem can also be a wireless router which can feed the entire apartment. The telephony service can be connected to a wireless telephone and feed the entire apartment. The option is to have the telephone connect (RJ-11) output of the modem hardwired/plugged into the telephone system and regular telephones used.

⁴³ Eisenach report, para 107.

⁴⁴ Eisenach Report, Figure 6

⁴⁵ Harris Second Report, para 5.5.

- 26 SingTel Optus identifies problems of physical access as a justification for its no-connection policy for MDUs, including difficulties in securing agreement from Body Corporates that typically control the MDU common area and wiring access.⁴⁶ SingTel Optus refers to similar difficulties faced by cable operators overseas, including in Canada.⁴⁷
- 27 The right to use the Telstra network cannot be regarded as a cure for all the deployment problems which SingTel Optus perceives it faces. Telstra notes that:
- similar difficulties have not lead those overseas cable operators to adopt a rigid policy of *never connecting* MDUs, or off not offering services to MDUs *even where coaxial cable has been installed into the common area*, as SingTel Optus admits to;⁴⁸
 - one of the main difficulties identified in Canada and other markets has been exclusivity arrangements between MDU owners and the first-in network operator. Exclusive access arrangements are **not** a feature of the Australian market; and
 - Australia already has regulatory rules dealing with access to private property and in-building cabling. Carriers have powers to enter and install facilities on private land under the *Telecommunications Act*.⁴⁹
- 28 SingTel Optus' real problem in connecting MDUs is that it is not using an efficient technical solution for its telephony service. The antiquated 1990s era cable telephony technology SingTel Optus uses requires a large box to be installed for each separate connection. In the case of SDUs, the box can be put on the side of the house but for MDUs, a box has to be installed for each unit and there may be insufficient space for the boxes in the common area or the body corporate may balk at their visual impact.
- 29 In his annexed report, Harris expresses the opinion that if SingTel Optus were to follow the standard practice of North American cable systems, it would replace or at least start phasing out, its ageing circuit switched telephony system with a VoB product, which would not require the installation of those bulky boxes.⁵⁰ Harris comments:⁵¹
- I am not aware of any comparable size network in the US which does not take advantage of more recent technology for the delivery of at least telephony services.*
- 30 Harris notes that the packet-based voice solutions have a "significantly lower cost on a per-subscriber basis than the existing systems used on the Optus HFC network,"⁵² which in turn would improve the economics of connecting MDUs.
- 31 Eisenach, in his report, reviews SingTel Optus' claim that it cannot economically serve MDUs within its cable footprint because of the unique competitive challenges it faces. He found:⁵³

⁴⁶ Optus SingTel March 2008 Submission, para 3.7.

⁴⁷ SingTel Optus March 2008 Submission, para 3.9.

⁴⁸ SingTel Optus March 2008 Submission, p43.

⁴⁹ Telecommunications Act 1996, Schedule 3, Part 1, Division 3.

⁵⁰ Harris Second Report, para 4.5.

⁵¹ Harris Second Report, para 3.3.

⁵² Harris Second Report, para 4.4.

Optus' argument is invalid for two reasons. First, US markets where overbuilders compete successfully have approximately as many MDUs (including small MDUs) as Optus' markets. Second, the challenges of penetrating MDU markets are not unique to Australia, but HFC operators elsewhere have been successful in overcoming these challenges.

- 32 In fact, Optus enjoys advantages that US cable companies do not. It faces only one major fixed line infrastructure competitor, which offers one set of competitive alternatives to Optus' services (regardless of how many networks it owns or operates).⁵⁴ Moreover, US overbuilders were until recently hindered by the practice of incumbents to enter into exclusive arrangements with MDU owners, which is not the practice in Australia. In the US, the FCC recently banned such exclusive contracts, finding that the argument that multiple infrastructures could not efficiently compete within a single MDU was no longer valid due to operators' ability to offer multiple services over the same infrastructure.⁵⁵
- 33 Finally, as noted above, SingTel Optus has apparently not reconsidered the feasibility of connecting MDUs since, at the latest, 2003. Given that so many variables have altered since then – including equipment costs, bundling rates, penetration rates and ARPUs – it is implausible that this analysis could accurately reflect the investment opportunities that SingTel Optus currently faces (for more, see Confidential Attachment 1, which contains important arguments and submissions in this regard. These have been placed in a confidential attachment to conveniently deal with confidential information related to this submission).

3.4 Suitability for business grade services

- 34 SingTel Optus argues that its HFC network is “suitable infrastructure for the provision of retail consumer services, but is not suitable for business and wholesale services”⁵⁶, principally because aerial networks are “generally acknowledged” to have lower reliability than underground networks.⁵⁷
- 35 SingTel Optus has, confidentially, provided a network availability figure for its HFC. In Confidential Attachment 1, Telstra provides some analysis of and commentary upon the network availability figure that SingTel Optus claims for its HFC. Harris, in his report, also gives his views.⁵⁸
- 36 Further, Harris comments that SingTel Optus' view of aerial networks is not shared by North American cable operators in respect of their networks, which are mostly aerial like the SingTel Optus network. Harris notes that in the US, Multiple System Operators (companies that operate more than one cable TV system) offer SME telephony services together with multi-channel video and high-speed internet services over their networks.⁵⁹ While an aerial network may be susceptible to damage from adverse weather, underground networks may suffer damage from rodents, water ingress and from being dug up. The

⁵³ Eisenach Report, para 64.

⁵⁴ Eisenach Report, para 55.

⁵⁵ Eisenach Report, para 67.

⁵⁶ SingTel Optus March 2008 Submission, para 2.11.

⁵⁷ SingTel Optus March 2008 Submission, para 2.13.

⁵⁸ Harris Second Report, Confidential Attachment C.

⁵⁹ Harris Second Report, para 6.4.

difficulties of accessing and repairing underground networks means they can take longer to repair than aerial networks.⁶⁰

- 37 It is also typical practice for HFC systems to provide for fibre-optic spurs to directly connect business premises requiring higher capacity, business quality lines, even where they are not directly passed by the HFC network. It is unlikely that this spare capacity was not provisioned for when the SingTel Optus network was deployed. As Harris says in his annexed report, this is good network design practice for HFC:⁶¹

Another example of “advanced planning” is that when I built the fiber optic system to service the San Juan Puerto Rico cable system in approximately 1995, I built the fiber optic rings, and other portions of the cable network, so they would not only be able to service the existing cable system but also business locations. This does not necessarily require the fiber rings to directly pass these businesses, because if there is sufficient fiber capacity in the network, then “one-shot fiber” extensions can be used to feed these locations. Good practice suggests that a fiber optic based network such as [SingTel] Optus’ would, during initial construction, include sufficient fiber capacity to allow for additional customers to be served this way.

- 38 Eisenach, commenting more generally on SingTel Optus’ claims about the unsuitability of the HFC network for business services, disagrees with SingTel Optus’ view:⁶²

US cable companies are competing successfully in the market for small and medium businesses. Comcast for example, reports that it expects to serve 20 percent of the [SME] market by 2011. Analysts agree that HFC can compete successfully in the SME market. Morgan Stanley, for example, recently concluded that “we believe it is reasonable to expect cable can achieve 20% market share of business telephony customers” and that “[t]he SME rollout is an opportunity to drive asset returns higher”...

- 39 Moreover, SingTel Optus can also serve customers including business customers, via its 3G network (as Telstra noted in its original submission,⁶³ and which SingTel Optus has not refuted). In fact, it already does so: SingTel Optus presently offers a wireless broadband 3G/HSDPA service to eligible small and medium businesses using a USB modem.

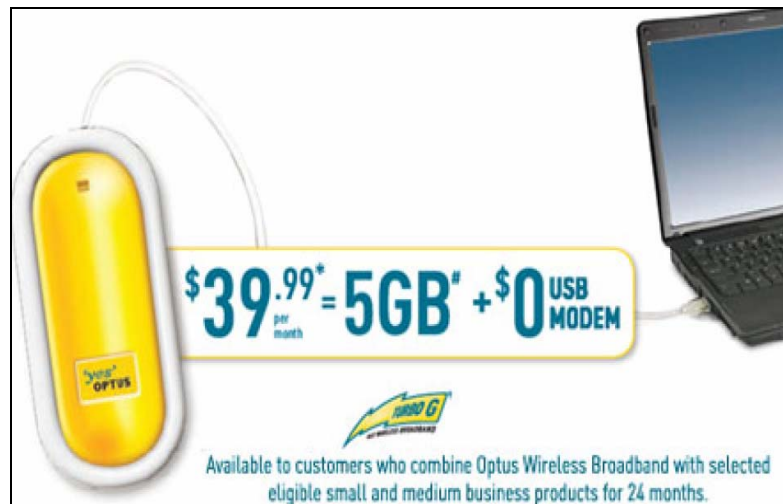
Figure 2: Advertisement from SingTel Optus website, 19 June 2008

⁶⁰ Harris Second Report, para 6.7. He also points out in para 6.8 of his second report, that Cablevision in the US has 74% aerial plant, without experiencing Optus’ apparent difficulties.

⁶¹ Harris Second Report, para 7.4.

⁶² Eisenach Report, para 31.

⁶³ Telstra, ‘Application for Exemption from Standard Access Obligations in respect of SingTel Optus’ HFC Network’, December 2007 (Telstra December 2007 Submission), para 153(b).



3.5 Wholesale on HFC?

- 40 SingTel Optus currently does not provide a wholesale service on its HFC network. However, the Commission noted in its draft WLR/LCS determination, “the removal of the option for access seekers of regulated access to LCS and WLR from Telstra may stimulate provision of wholesale Fixed Voice Bundles from ULLS-based competitors.”⁶⁴ SingTel Optus may well respond in the same way and offer a HFC wholesale service if it no longer has access to regulated ULLS.
- 41 SingTel Optus argues that it would face “obstacles” in providing wholesale services, including the provision of backend IT systems for billing and data usage to service wholesale customers.⁶⁵ SingTel Optus suggests that the provision of backend IT systems for billing and data usage would be not only costly but would require a long development time.⁶⁶ It is simply not credible that a company such as SingTel Optus would assert that wholesaling HFC is too hard. SingTel Optus, in its own words, is a “leading supplier of Wholesale services.”⁶⁷ and a “leader in integrated telecommunications, delivering cutting-edge communications, information technology...services”⁶⁸. With SingTel Optus’ wholesale division contributing some \$629 million⁶⁹ to total revenue to year end 31 March 2008, it can only be assumed that SingTel Optus has already invested significantly in backend IT systems for billing wholesale customers.
- 42 As we discuss in Part 5, even if SingTel Optus chooses not to wholesale on its HFC, the granting of the exemption would still have been in the LTIE.

⁶⁴ ACCC, ‘Telstra’s Local Carriage Service and Wholesale Line Rental Exemption Applications – Draft Decision and Proposed Class Exception’, April 2008, (WLR/LCS draft determination), p 70.

⁶⁵ SingTel Optus March 2008 Submission, para 2.18(b).

⁶⁶ SingTel Optus March 2008 Submission, para 2.18(b).

⁶⁷ See:

<http://www.optus.com.au/portal/site/wholesale/menuitem.49d464b563d919e44f7416058c8ac7a0/?vgnnextoid=75d33dd4813b1010VgnVCM100000c8a87c0aRCRD> (accessed 29 May 2008).

⁶⁸ See:

<http://www.optus.com.au/portal/site/aboutoptus/menuitem.ee0ee21ac9cce722d0b61a108c8ac7a0/?vgnnextoid=ef4f3dd4813b1010VgnVCM100000c8a87c0aRCRD> (accessed 29 May 2008).

⁶⁹ See: SingTel, *Singapore Telecommunications Limited and Subsidiary Companies: Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows for the Fourth Quarter and Financial Year ended 31 March 2008*, p 43.

4 Market structure is no excuse

- 43 In this Part, we respond to SingTel Optus' argument that its inability to compete more broadly using its HFC network is explained by two related aspects of the Australian market:⁷⁰
- the history of overbuild of the SingTel Optus HFC network by the Telstra HFC network; and
 - the state of its pay TV business, by reason of low penetration and the cost of content.

4.1 The irrelevance of overbuild

- 44 Put simply, SingTel Optus bemoans the fact that it does not enjoy a franchise monopoly in cable TV, as it had requested at the outset of its deployment, and as some overseas operators enjoyed.
- 45 The fact that other firms are at liberty to compete with SingTel Optus, thus making its business more challenging than if it had no competitors, cannot form a reason to reject this exemption application, as SingTel Optus' list of protected pay TV providers implies. The question at issue in these proceedings is not whether SingTel Optus has a thriving pay TV business, or whether it would be better off with less competitors, but whether *end users* are better off if it competes via its own infrastructure.
- 46 In any event, geographic franchise monopolies are increasingly being superseded by markets where HFC and fibre-based overbuilders are successfully competing not just with the incumbent telco, but also with the incumbent cableco. Eisenach, in his report,⁷¹ compares four service territories in the US⁷² that are in many ways comparable to the cities where SingTel Optus operates HFC.⁷³ In all of these four territories, cablecos have been joined by HFC entrants, while incumbent telcos continue to operate on copper networks and, in some cases, FTTP networks as well. In addition, satellite pay TV operators provide further competition, together with wireless networks for voice and data. Yet in these well-contested territories, cablecos (including overbuilding entrants) provide aggressive competition based on networks that are kept far more up-to-date than SingTel Optus' HFC.
- 47 Similarly Professor Cave notes that the duplication of networks is becoming increasingly common, and incumbents in a number of countries are deploying FTTP networks in parallel with their copper networks. He notes:⁷⁴
- Australia is not alone in having pay TV competition. It should not be a matter of regret, but of celebration, that some Australians have a choice of retailer;

⁷⁰ SingTel Optus May 2008 Submission, paras 2.4 and 2.7.

⁷¹ Eisenach, paras 76 – 106.

⁷² Detroit, San Francisco, Tampa and Washington DC.

⁷³ Sydney, Melbourne, Brisbane.

⁷⁴ Cave Second Report, p 3 Indeed, Verizon recently began deploying a fibre overbuild network in competition with AT&T's broadband U-verse and Time-Warner's broadband cable network (<http://www.onetrak.com/ShowArticle.aspx?ID=3487> ; sighted 11 June 2008).

- in the UK, Virgin operates an aggressive cable business and faces a strong pay TV competitor in Sky. Notwithstanding that Sky also has interests in upstream content businesses, and that Virgin has less regulatory protection than SingTel Optus regarding access to that content, Virgin has achieved a much higher level of customer serviceability in its footprint, and has committed to an aggressive upgrade path to increase broadband speeds to 50 Mbps by the end of 2009; and
- the competitive situation now emerging in the United States is not dissimilar to the situation that has historically applied in Australia,⁷⁵ with incumbents, such as Verizon, deploying a second network – FTTP - beside their copper networks. Unlike SingTel Optus cable operators have responded by redoubling their efforts in the ‘broadband speed’ race against incumbents.

48 More tellingly, Professor Cave also notes that the question is not whether SingTel Optus would be better off with a monopoly than with a competitor.⁷⁶ The answer to this is both obvious, and irrelevant.

49 He finds that there is no link between Telstra’s co-ownership of copper and cable networks that justifies the refusal of this exemption application, and it is not obvious that SingTel Optus is disadvantaged by this co-ownership:

- First, Telstra bears the extra costs of an additional network;
- Second, Telstra is subject to cross-pricing considerations, because customers may switch between networks; and
- Third, while in theory Telstra may attempt to “triangulate” its opponent (akin to ‘fighting brand’ strategies), there are no allegations of this and the evidence of SingTel Optus’ superior cable modem penetration and overall growth is inconsistent with that occurring. (In any event, if there were proven allegations of such conduct, the appropriate response would not be an access remedy but a pricing or conduct remedy).⁷⁷

50 In all, Professor Cave considers:⁷⁸

“...I have not been able so far to find a ground based on Telstra’s co-ownership of a copper and a HFC network for denying the exemption application. In my view, the most striking “unique feature” of the Australian market is not the ownership of two networks by Telstra but SingTel Optus’ multi-sourcing strategy. That unique feature is more likely to be the culprit in explaining Optus underinvestment in its HFC and the poorer track record of that network. In the circumstances, for reasons given in my previous paper, maintaining the existing access remedy for Optus seems more likely to injure than to benefit the long term interest of end users.”

51 The overseas evidence shows that ownership by the incumbent of more than one of these networks does not appear to be distorting competition in the way SingTel Optus alleges. The deployment by overseas incumbents of their own overlay FTTP networks in the same areas as cablecos have deployed HFC

⁷⁵ Cave Second Report, p 3.

⁷⁶ Cave Second Report, p 4. See also Eisenach Report, paras 54-55.

⁷⁷ Cave Second Report, p 6.

⁷⁸ Cave Second Report, p 7.

provides a direct analogy to Telstra's ownership of copper and cable networks in SingTel Optus' HFC footprint. Verizon continues to actively sell from both its copper network and its new ViOS FTTP network in the same areas. Far from the cablecos wilting, they have been emboldened to upgrade their networks to offer ever higher speeds to meet the challenge from the incumbents' second network. As Eisenach notes, while an operator may have two networks passing a home, it is only selling one network connection to that customer:⁷⁹

Optus' claims regarding the significance of Telstra's HFC network are inconsistent with both the facts and with economic theory. Simply put, Telstra's significance as a competitor to Optus is not a function of how many networks it operates, but rather of the services it offers, the costs of providing those services, and the prices it charges for those services.

4.2 The state of SingTel Optus' pay TV business

52 SingTel Optus' historical difficulties in pay TV are well known, and largely of their own making – for example, SingTel Optus' movie contracts were signed before FOXTEL gained any movie rights, and if anything, SingTel Optus' behaviour drove up FOXTEL's costs. They also made poor technology choices – again, not something that Telstra had any role in.

53 The fact that SingTel Optus wrote down the value of its HFC network is unremarkable. As it notes, Telstra also wrote down its network (although it did so sooner in the context of the T1 float). Eisenach points out that US cable overbuilders did likewise during the telco crash of the early 2000s, but have continued to invest and keep pace with current technology.⁸⁰ He finds:⁸¹

the experience in the US market demonstrates that multiple competing wireline infrastructures can and do compete successfully.

54 In light of its submissions in these proceedings, SingTel Optus' unenthusiastic approach to its pay TV business is all the more puzzling. It says that pay TV revenues are critical to the profitability of cable networks,⁸² yet it reported a 25.7% YOY uplift for the recent March quarter.⁸³ It complains that low penetration makes it difficult to achieve economies of scale,⁸⁴ yet it allows its pay TV penetration to dwindle or idle.⁸⁵

55 In any event, it makes little sense to analyse SingTel Optus' pay TV business in isolation of its other HFC businesses, regardless of its historical difficulties. As Eisenach says:⁸⁶

...[SingTel] Optus' focus on pay TV penetration is misplaced. The relevant question from an economic perspective is not how many people subscribe to pay TV (or any other single service) but rather the proportion of serviceable homes in

⁷⁹ Eisenach Report, para 45.

⁸⁰ Eisenach Report, para 21.

⁸¹ Eisenach Report para 16.

⁸² SingTel Optus May 2008 Submission, para 2.10.

⁸³ See SingTel, *Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows, 4th Quarter and Financial Year ended 31 March 2008* at p 49.

⁸⁴ SingTel Optus May 2008 Submission, para 2.17.

⁸⁵ SingTel Optus' pay TV subscriber numbers (based on publicly released data) are shown: Telstra December 2007 submission, Figure 8, p 19.

⁸⁶ Eisenach Report, para 109. See also para 43.

the network purchasing services of any kind, and the amount of revenue received per serviceable home.

- 56 Eisenach goes on to demonstrate that on an aggregate revenue basis, SingTel Optus performs quite well relative to comparable cablecos in the US.⁸⁷
- 57 In other words, SingTel Optus' HFC fortunes are not hostage to its pay TV business. If it were, surely SingTel Optus would not have let that business idle in the way that it has over several years.
- 58 Moreover, if pay TV were important to SingTel Optus because of its bundling ability, then this is further reason why SingTel Optus should have produced information regarding its entire HFC business to enable the Commission to assess its HFC viability claims. Pay TV alone cannot demonstrate this.
- 59 SingTel Optus cannot have it both ways. Either pay TV is important to it (in which case its importance must be fully revealed (e.g. by assessing its viability inclusive of bundling effects), or it is not, in which case SingTel Optus cannot use its pay TV difficulties as an excuse for not investing.
- 60 Even though SingTel Optus has allowed its pay TV business to idle is of decreasing importance, because the advent of broadband has made pay TV less relevant than it ever was to SingTel Optus' fortunes.
- 61 On the overseas evidence, it is doubtful as to whether those ex-monopolies carry forward any "monopoly endowment" into the new, broadband-driven world. Interestingly, the broadband penetration of major cablecos in the US and the UK (countries cited by SingTel Optus) are almost identical to SingTel Optus' HFC broadband penetration rate of 29%: in the UK, Virgin Media's first quarter 2008 broadband penetration rate was 29%;⁸⁸ while in the US, ComCast had first quarter 2008 broadband penetration of 28%.⁸⁹
- 62 SingTel Optus is doing as well or better on its HFC broadband take-up as many overseas cable operators on the same measure. But unlike SingTel Optus, Virgin Media and ComCast have not relied on regulated access services within their cable footprint, and have invested in network and service upgrades to compete vigorously over their cable infrastructure. Confidential Attachment 1 includes further important arguments and submissions on SingTel Optus' subscriber numbers and bundling.
- 63 In short, SingTel Optus' view that it suffers from being denied the legacy benefits of a pay TV monopoly reflects an old-world view.⁹⁰ The statutory monopolies in the countries cited by SingTel Optus have been eroded, with the advent of convergence and competition. The incumbents in each of these countries provide pay TV services which compete with cable TV providers, while cablecos increasingly offer telephony, and often multiple networks (including overbuilders) both compete to provide these services as well as broadband. In the "broadband race", SingTel Optus on its HFC does as well or better than cable operators with historical pay TV monopolies.

⁸⁷ Eisenach Report, para 110.

⁸⁸ Virgin Media, 'Virgin Media Reports First Quarter 2008 Results', Appendix A, p 18 http://library.corporate-ir.net/library/13/135/135485/items/292630/VM_q12008_final.pdf.

⁸⁹ ComCast, 'ComCast Reports First Quarter 2008 Results' <http://library.corporate-ir.net/library/11/118/118591/items/291108/1Q08PR.pdf>.

⁹⁰ Optus May 2008 Submission, para 2.11, Appendix H.

4.3 Broadband makes the difference

- 64 In other contexts, SingTel Optus has recognised that it has a bright broadband future beyond the pay TV business model in which the network provider is also the content provider. In a speech discussing pay TV and content, the CEO of SingTel Optus, Paul O’Sullivan made light of its pay TV history and touted SingTel Optus’ strong position as a multi-network owner to compete offering connectivity anywhere, anytime:⁹¹

For many telcos, content is a touchy subject. Certainly Optus has its fair share of scars from our attempt in the mid nineties to build our very own content factory to supply our then fledgling pay TV business. I believe that in Hollywood, even today, you need merely mention the phrase “Australian pay TV executive” and they double over in laughter – before telling some war stories of how much they took those suckers for.

Yet at the same time, a sober analysis of the threats and opportunities in telecoms suggests that content is becoming an ever more important part of the landscape – particularly as technologies converge and we move to broadband networks in both fixed and mobile.

*... At Optus, we believe **we have a critical role in delivering broadband** and mobile content to our customers... Users want a consistent content experience regardless of the access method – fixed or mobile. Let me talk specifically about what we plan to do for the ubiquitous user...In broadband we’ll offer video, voice and applications **and all through one pipe.***

*.... In conclusion, then, today I have discussed convergence and the growing importance of content in the telecommunications sector. This is driven principally by market and technological changes, with **broadband services becoming increasingly widespread** in both fixed and mobile. These changes clearly **require telcos to respond – and to capture the opportunities** which arise.*

(emphasis ours)

- 65 Strangely, while Mr O’Sullivan refers to the investment SingTel Optus is making in its mobile broadband network, and clearly identifies the need to respond to capture content opportunities, no mention is made of its HFC network, although it is best suited to the SingTel Optus’ stated objective of offering video, voice and applications “all through one pipe”.
- 66 Optus pointedly does not answer the question as to whether the economics of its HFC could be *improved* by additional investment. SingTel Optus either deliberately avoids talking up its HFC network for fear of losing regulated access to ULLS, or it has a wilful blind spot about its current and potential capabilities. Removal of regulated access will require SingTel Optus to rethink its attitude to the HFC network.

⁹¹ Paul O’Sullivan, ‘The Growing Importance of Content for the Telecommunications Industry’, 19 May 2005. <http://www.optus.com.au/portal/site/aboutoptus/menuitem.813c6f701cee5a14f0419f108c8ac7a0/?vgnextoid=ef861e2b94995010VgnVCM10000029867c0aRCRD&vgnnextchannel=11fbfaf924954010VgnVCM10000029a67c0aRCRD&vgnnextfmt=default>

4.4 No basis for an inability to compete

67 Eisenach’s report systematically tests the assertions of difference that Optus cites as explanations for its unique inability to compete via its HFC. He found that all of these differences were “non-existent, overstated or balanced by other factors.”⁹² The four urban areas selected by Eisenach have comparable urban characteristics to the areas in which SingTel Optus has deployed its HFC network. Eisenach found:

- **it is not unique in facing wireline competition, and in fact, faces less competition than a number of US cable operators:** each of the four cities Eisenach uses as a comparison to Optus in his analysis has two data-voice-video HFC providers and is served by an incumbent telephone company offering voice and DSL internet, which is bundled with pay TV services provided by a satellite provider, and data and pay TV using FTTN (U-Verse) or FTTP (FiOS) infrastructure. In addition, the satellite providers offer pay TV services independently of the resale-based bundled services described.⁹³
- **its territories are generally larger than most cable territories in the US:** the area covered by each of the US operators Eisenach uses as a comparison is significantly smaller than Optus, whose coverage area ranges from 250 to 490 square miles, with a population density of 2 700 to 4 300 inhabitants per square mile. In contrast, the US operators’ coverage areas range from 90 to 380 square miles, at a population density of 2 000 to 6 400 inhabitants per square mile.⁹⁴
- **it is not unique in serving areas that include many small MDUs:** Of the homes passed by Optus, 13-18% are considered small MDUs. By contrast, in all but one of the cities used by Eisenach for analysis purposes the proportion of small MDUs passed which is higher than Optus’ range:⁹⁵ 16-36% of the homes passed by the US overbuilders consist of small MDUs.⁹⁶
- **while pay TV penetration is lower in Australia than the US, other characteristics compensate** for this difference: Optus focuses on pay TV subscribers. However, the appropriate point of comparison is not how many people subscribe to pay TV, or any other single service, but, how many subscribe to all services combined, and the average revenue per unit that this provides. On these metrics, Optus compares favourably with US cable operators generally, and outperforms US overbuilders.⁹⁷

68 On summary, Eisenach found that SingTel Optus has no reason to make unfavourable comparisons with the US on any of these competitive dimensions. He concluded:⁹⁸

the three Optus service territories are not, on balance, any less commercially attractive than the four U.S. overbuilder service territories I examined. To the contrary, on the single characteristic upon which Optus places the greatest

⁹² Eisenach Report, para 13.

⁹³ Eisenach Report, para 108.

⁹⁴ Eisenach Report, para 106.

⁹⁵ Eisenach Report, Table 3.

⁹⁶ Eisenach Report, para 107.

⁹⁷ Eisenach Report, para 109.

⁹⁸ Eisenach Report, para 108.

weight (the prevalence of small MDUs), Optus service territories are on balance more commercially attractive than in the U.S. Moreover, the U.S. overbuilders I examined face substantially more competition – from two satellite pay TV providers plus, in three of the four cases, from Next Generation FTTN or FTTP infrastructures being deployed by the incumbent telephone companies – than does Optus.

5 Regulated access: convenient for SingTel Optus, damaging to the LTIE

69 In this Part, Telstra responds to SingTel Optus' arguments that granting the exemption would not be in the LTIE.

5.1 Benefit to SingTel Optus vs. benefit to end users

70 There is no doubt, given the high level of overlap between the SingTel Optus DSLAM infrastructure and its HFC network, that the availability of ULLS within SingTel Optus HFC footprint is a convenient and heavily utilised option for SingTel Optus. SingTel Optus candidly explains its dual sourcing approach as follows:⁹⁹

Optus faces a range of costs across the homes passed by its HFC network. Some homes are less costly to connect and serve using HFC; others are much more costly due to, for example, difficult terrain, or being a long distance from the HFC cable. In order to minimise production costs, Optus is more likely to serve the latter homes using Telstra wholesale services.

71 What SingTel Optus is admitting to was always likely to be the case. SingTel Optus, facing a favourable regulatory access price, is picking and choosing between supplying customers via regulated access and its own network as convenient. What SingTel Optus is admitting to stands in stark contrast to its supposed policy of using HFC to service all homes that are serviceable by HFC.¹⁰⁰

72 Clearly the convenience of favourable regulatory access is highly valuable to SingTel Optus, and its arguments in support of its continuation are unsurprising.

73 As Ergas notes in his attached report, "waiting for an access seeker to concede that it does not require or benefit from regulated access amounts to deciding to regulate in perpetuity."¹⁰¹ This is because, as Ergas explains:¹⁰²

it will generally be the case that access will be convenient to an access seeker as it provides an option that otherwise would not exist (if this were not true there would be no need to regulate that access). ... should the access seeker not wish to use the access provider's infrastructure at all, having a regulated option to do so costs it nothing. Similarly, should regulated access prove more burdensome than access on commercial terms, the access seeker is free to shift to access on commercial terms. However, if circumstances ever arise in which regulated access is attractive, that option remains open to the access seeker (and this is so even if such access would not be made available in a competitive market; in that case, regulated access would displace competitive facility-based supply). As a result, it is difficult to see how having the right to use regulated access could ever be anything but desirable from the perspective of an access seeker.

74 However, what is convenient or valuable for access seekers is not necessarily what is in the LTIE: that is, SingTel Optus' private benefits from access to

⁹⁹ SingTel Optus March 2008 submission, para 6-8.

¹⁰⁰ SingTel Optus March 2008 submission, paras 1.5, 2.1.

¹⁰¹ Henry Ergas, 'Expert Report – Henry Ergas' (Ergas Report), para 16.

¹⁰² Ergas Report, para 10.

regulated services do not necessarily coincide with the wider social interests in whether access services should be regulated.

- 75 Part XIC was never intended to establish an overlapping menu of access service choices which allowed access seekers the choice in perpetuity to buy, partly build or fully build.¹⁰³ As the Commission itself commented in the draft WLR/LCS determination, the Explanatory Memoranda to Part XIC provides that “[i]t is not intended that the access regime embodied in this Part impose regulated access where existing market conditions already provide for competitive supply of services”.¹⁰⁴
- 76 There are three reasons why the exemption may be in the LTIE even if SingTel Optus itself loses an option it regards as valuable.
- 77 First, facilities-based competition between rival end-to-end networks has the potential to realise wider benefits to society, than just those realised by their owners. As Ergas explains:¹⁰⁵

The fact that deploying competing facilities has benefits that go beyond those which accrue to access seekers has been recognised by economists, regulators and courts overseas. These benefits take the form of...[e]conomic benefits in the form of the portfolio, rivalry and information benefits of competition, where:

- *The portfolio effect refers to the gain society makes in terms of dynamic efficiency, and especially innovation, by “having more horses in the race”;*
- *The rivalry effect arises from the greater competitive discipline exercised by having two or more players with a high degree of commitment to the market and different cost structures;*
- *The information effect arises from the fact that consumers, investors, regulators and policy-makers gain by being able to observe the prices, outputs and financial performance of several independent players.*

- 78 These benefits to consumers will be all the greater when the form of facilities based competition which will be promoted by withdrawing access is between competing end to end platforms which use different technologies, and have different actual and potential capabilities.

- 79 SingTel Optus tries to hedge the benefits of facilities-based competition:¹⁰⁶

Optus submits that Telstra’s contention that facilities-based competition is always superior is untested and uncertain. Optus considers that the ACCC cannot be satisfied that full infrastructure-based competition (even if achieved at some future date) is always and unambiguously in the LTIE

- 80 SingTel Optus mischaracterises Telstra’s position. Our view is that, given the clear evidence about the benefits of enhanced competition and innovation from full facilities-based competition, there must be a strong operating presumption

¹⁰³ Ergas Report, Part 5.2.

¹⁰⁴ WLR/LCS draft determination, p 7.

¹⁰⁵ Ergas Report, para 38.

¹⁰⁶ Optus March 2008 Submission, para 5.23.

that it is to be preferred over services based or quasi-facilities based competition and that the onus is on those who would argue that there are counterbalancing costs which outweigh those benefits. That presumption must be even stronger where the withdrawal of access would promote the greater utilisation of the end to end infrastructure which is **already** in place.¹⁰⁷ Eisenach notes:¹⁰⁸

... infrastructure competition results in greater innovation and competition, yields lower prices and increased choice for consumers, increases broadband penetration, and ultimately allows regulators to move to less intrusive forms of regulation.

81 Second, regulation has its own costs and, as Ergas notes, “regulation should only be applied if the costs of forbearing from regulation are likely to exceed the probable regulatory costs.”¹⁰⁹ Ergas identifies the following regulatory costs:¹¹⁰

- compliance costs imposed by the regulatory system, including of arbitrations, appeals and regulatory supervision;

- rent seeking costs which Ergas defines as:

the costs interested parties, which may include the regulator, and others that are not directly part of the regulatory process, incur to influence regulatory outcomes so as to obtain economic rents. Rent-seeking is facilitated by the extent to which regulatory discretion determines what services are to be regulated. The greater that discretion, the more the interested parties stand to gain if they are able to influence the regulatory decision, whether through the regulatory process or outside of it.

- costs of regulatory risks. As Ergas explains:

Regulation adds uncertainty to the business environment that creates the need to hedge, which in turn harms investment incentives. Where very large sunk investments are contemplated, such as is the case for access networks, even a small increase in regulatory risk can substantially increase investment costs

- the costs of distortions caused by regulatory error. As Ergas calculates in his annexed report, the risks of regulatory risk are significant in this case given the number of overlapping access services, the level of shared costs between ULLS and other lines and the inherent difficulty of ensuring that LSS, WLR, LCS and OA recover total costs, which are mostly in the line itself.

82 Third, the Commission cannot assume, particularly in this case, that SingTel Optus’ use of ULLS and the other services reflect the decisions of an efficient operator. SingTel Optus, on its own admission, does not even know all the homes its network currently passes, because its data is antiquated. In considering whether it is in the LTIE for SingTel Optus to continue to access the

¹⁰⁷ See also Cave First Report, p 2: “This dual sourcing behaviour risks thwarting the ACCC’s objectives vis-à-vis infrastructure competition – which would seem naturally to entail encouraging competition to develop and use their facilities where they exist, and the promotion of access-based entry only where they do not.”

¹⁰⁸ Eisenach Report, para 114.

¹⁰⁹ Ergas Report, para 28.

¹¹⁰ Ergas Report, para 18.

ULLS and the other specified declared services in its HFC areas, it must be relevant to ask whether, if SingTel Optus had operated as an efficient infrastructure owner, it would have maintained and upgraded its network differently. Overseas cable operators provide a reasonable proxy for an efficient cable operator. Overseas cable operators, which do not use regulated access in their footprints, have upgraded to DOCSIS 2 or 3 and deployed VoB while SingTel Optus, which does heavily use regulated access, continues to use the technology solutions used in the original deployment of its HFC network over 13 years ago.

- 83 The fact that SingTel Optus may have made, or continues to make, inefficient or imprudent investments in its network cannot be a ground for arguing that the exemption sought by Telstra should not be granted.
- 84 Allowing SingTel Optus to have continued access to regulated access because of any technical or service shortcomings of its HFC network would reward SingTel Optus for being an inefficient operator of and a reluctant investor in that network and would be to the ultimate detriment of the LTIE.

5.2 *Simply correcting distortions in access pricing is not enough*

- 85 SingTel Optus argues that the best way for the Commission to promote efficient investment in infrastructure is to set a cost-reflective ULLS access price and allow access seekers to make their own investment decisions on that basis.¹¹¹ In effect, SingTel Optus says once the ACCC has set the prices, its job is done.
- 86 Telstra strongly believes that the current ULLS price set by the Commission is below efficient cost.¹¹² In practice, the likelihood of access prices being set correctly is small¹¹³ and where the existence of competitive infrastructure enables the removal of the requirement and reliance on regulated price setting, this will promote the LTIE. As the former Chief Economist of the FCC, Thomas Hazlett, has said of the task of pitching the access price at the right level which does not result in inefficient under-investment or over-investment:¹¹⁴

... this regulatory bank shot requires a pool-hall pro. Wholesale terms must be attractive enough to actively induce entry, but without enticing entrants to prefer renting to building and owning.

- 87 However, even if access prices were set at the “right” level the inefficiencies wrought by unnecessary regulation would continue and the wider benefits of inter-platform competition outlined above would not be secured.
- 88 This is because if regulated access continues to be available to the operator of an alternative local access network, it will still have an incentive, on a house by house basis, to dual source between regulated access and its own network. This is because access prices are necessarily averaged – either across an exchange area or across a wider geographic area – while the costs of directly connecting a customer – whether to the incumbent’s network or the alternative network – vary house by house. The alternative network owner will “cherry pick” the houses which can be connected to its network at a cost below the averaged

¹¹¹ SingTel Optus March 2008 Submission, para 3.13.

¹¹² Telstra, ‘Telstra Efficient Access Model Overview’, 21 December 2007, p 1.

¹¹³ Ergas Report, paras 12-14.

¹¹⁴ Thomas Hazlett, ‘Germany’s Cable Problem’ Wall Street Journal, 30 August 2006.

regulated price and use the regulated services for more costly homes. As Ergas explains in his annexed report:¹¹⁵

Even under highly effective competition, it is rarely, if ever, efficient for all prices to exactly reflect underlying costs. This is because the transactions costs of de-averaging prices down to the unit level are impossibly large. While this is also true for regulatory prices, it is likely that relatively coarse averaging must take place when a regulator sets price (since regulated prices are called for exactly when market forces provide minimal guidance as to costs). This makes it likely that, relative to a competitive market, an access seeker can profitably cherry-pick the access service.

- 89 This cherry picking behaviour, although in the interests of SingTel Optus, is clearly not in the long term interest of end users and should not continue to be underwritten by convenient regulated access to the PSTN.
- 90 If the ultimate objective is full facilities based competition and “the ladder of investment” is seen as a means of getting there, the regulator needs to actively manage the ladder to ensure that access seekers keep moving up the ladder by deploying more of their own facilities and building closer to the customer. Access seekers are unlikely to have much incentive to climb the ladder if it is permanent, the number of rungs on the ladder is constant and the pricing of each rung is fixed on the basis of the incumbent’s forward looking costs. If the architect of the ladder of investment is to work, the regulator has to proactively manage it by adjusting access prices above costs or by removing rungs in the ladder. As Professor Cave says, the regulator has to “chivvy” access seekers up the ladder if the benefits to consumers of more facilities-based competition are to be achieved. SingTel Optus’ behaviour exactly illustrates what happens when the regulator does not do enough “chivvying.”

5.3 Removal of access will not have disincentive effects

- 91 SingTel Optus argues that a discriminatory HFC-based exemption would create a disincentive for SingTel Optus to invest in its HFC network outside of the exempt area and other competitors to develop their networks at all.¹¹⁶ SingTel Optus argues that this is so because these carriers would fear that any investment in new networks or network extensions would cause them to lose access to Telstra’s fixed line services.¹¹⁷
- 92 The converse of SingTel Optus’ argument is that access regulation would never be removed. This cannot be right. The ladder of investment theory, for example, is built around the principle that access regulation will diminish and eventually be removed as access seekers climb the ladder by deploying more facilities of their own. It is the very non-permanency of access which provides the incentive to climb the ladder. As Ergas says in his attached report, the potential loss of regulated access “signals to access seekers that they would do well to scamper up the ladder before they lose their regulatory option.”¹¹⁸
- 93 Other access seekers would see, if this exemption was granted, that this is a very different and much more conservative approach to an automatic trigger removing regulated access as soon as alternative infrastructure was deployed,

¹¹⁵ Ergas Report, para 15.

¹¹⁶ SingTel Optus March 2008 Submission, para 4.16.

¹¹⁷ SingTel Optus March 2008 Submission, para 4.16.

¹¹⁸ Ergas Report, para 54.

such as applies in New Zealand. First, the SingTel Optus HFC is a very large local access network passing over 2.2 million homes. Second, the network has been in place for over 13 years. Third, SingTel Optus has achieved significant share of the retail customer base in its HFC areas. Fourth, this issue has arisen because SingTel Optus has not migrated ULLS-based customers to its own network and pursues a dual sourcing policy as a continuing strategy with no end point in sight (in fact its ULLS based customers seem to be growing at a faster rate than its HFC customers). A network operator which was competing vigorously using its own network, even if it needed some time to migrate its customers, would be exhibiting very different behaviour to SingTel Optus.

6 SingTel Optus' procedural arguments

- 94 This Part responds to SingTel Optus' procedural arguments set out in its letter of 3 April 2008 and its presentation slide pack to the Commission that Telstra's HFC exemption application is invalid because it is "expressly contingent on the outcome of other overlapping exemption applications".
- 95 The HFC exemption includes LCS and WLR to the extent that they are not already covered by any other exemption granted by the Commission. This is logical as it would not make sense to withdraw a rung of the access ladder (ULL) while leaving lower rungs in the ladder (LCS and WLR) in place.
- 96 Expressing the HFC exemption as including LCS and WLR to the extent that they are not already covered by any other exemption granted by the Commission: does not cause any legal defect in the HFC exemption application; it does not mean that parties are unable to engage fully in the consultation process on the HFC exemption application; and does not place the Commission in a position where it is unable to properly assess the HFC exemption.
- 97 **First**, the sequencing of the relevant exemptions will not make much practical difference in the Commission's considerations.
- 98 If the Commission's draft WLR/LCS decision is confirmed, the effect of the LCS and WLR exemption will be to remove regulated access to these services in ESAs with HFC where there are 14,000 or more addressable SIOs or four or more ULLS-based competitors (including Telstra) within the ESA. As the Commission is aware, SingTel Optus made the strategic decision several years ago to move away wherever possible from being a reseller of Telstra PSTN services and to commence a large scale deployment of DSLAMs and using Telstra's ULLS to supply voice and broadband services to its end customers. The vast extent of ULLS based competition in the exemption areas contemplated by the LCS and WLR exemptions is a matter of indisputable fact as is the decline on Telstra's WLR lines across metropolitan Australia as a direct result. Therefore, whether the LCS and WLR exemption is confirmed or not will have very little, if any, practical impact on SingTel Optus.
- 99 In any case, if regulated access is removed in the circumstances identified in the Commission's draft decision, there remains a strong incentive on Telstra or other ULLS based acquirers for that matter to provide LCS and WLR or equivalent services to SingTel Optus on a commercially negotiated basis should SingTel Optus wish to acquire these services. This is especially so, given the comprehensive DSLAM based competitive activity (driven by SingTel Optus, demonstrably the largest acquirer of ULLS services across metropolitan Australia) and the significant diminution of Telstra Wholesale's WLR SIOs in that self same footprint that has followed irrespective of the status of the formal declaration of LCS and WLR.¹¹⁹ Clearly the availability of ULLS at regulated rates is what is driving competitive activity anyway and cannot be ignored with or without exemptions.

¹¹⁹ SingTel Optus has in recent times shifted away from resale-based supply towards ULLS in pursuit of higher margins. See SingTel, *Management Discussion and Analysis of Financial Condition, Results of Operations and Cash Flows for the Third Quarter and Nine Months Ended 31 December 2007*, at p 47.

- 100 SingTel Optus' ability to fall back onto its HFC network (or to fall back on the wholesale services offered by ULLS-based operators) would provide Telstra with an incentive to commercially supply the exempted services at a reasonable price. As Ergas explains in his attached report:¹²⁰

Indeed, absent declaration, Telstra may have stronger incentives to reach commercial agreement with Optus for the supply of wholesale services, to the extent to which Telstra may be able to secure some economic profits by so doing (rather than simply being held to recover average costs, as would happen under declaration). As for Optus, if it can be more efficient than other access seekers in using those wholesale services (bearing in mind that the other access seekers will still have regulated access), it too will have incentives to reach a commercial agreement with Telstra (in instances where Optus faces higher costs than Telstra in full-facility based supply). As a result, while arbitrated agreements between Telstra and Optus will no longer play a role (as the compulsory arbitration mechanism will not apply), that does not imply that commercial agreements will not be reached.

- 101 Notably, PCCW in Hong Kong continues to supply an unbundled loop service to competitors despite the withdrawal of regulated access, and several of PCCW's downstream competitors have signed long term supply deals with PCCW and continue to actively acquire unbundled loops.
- 102 If the Commission grants the HFC exemption, the effect will be to remove regulated access to WLR, LCS and ULL in areas which can practically be served by the SingTel Optus HFC network – but under the limited scope of the HFC exemption it will only remove regulated access in relation to SingTel Optus and not other access seekers. Therefore, the impact of this exemption is the same regardless of whether the Commission has or has not confirmed its draft decision in respect of the LCS and WLR exemption application. That is, in making its decision on the HFC exemption, the Commission will necessarily be making that decision on the basis that LCS and WLR will not be the subject of regulated access by SingTel Optus regardless of whether the Commission has confirmed its draft decision on the LCS and WLR exemption.
- 103 Given both of the above, whether or not the Commission has confirmed its draft decision on the LCS and WLR exemption is relevant to the Commission's assessment of the HFC exemption only insofar as service providers other than SingTel Optus having regulated access to LCS and WLR services changes the nature of competition in the market in a relevant way. As the Commission's draft decision is to remove regulated access to LCS and WLR services in ESAs only where there are 14,000 or more addressable SIOs or have four or more ULLS-based competitors (including Telstra) within the ESA, whether or not service providers other than SingTel Optus have regulated access to LCS and WLR services will have no, or very little impact, on the competition analysis relevant to the HFC exemption. As the Commission has noted in its draft determination, downstream wholesale products are likely to still be available from the non-Telstra DSLAM based operators and Telstra also has an incentive to supply LCS, WLR and ULLS on a commercially agreed basis will exist if either or both of the LCS and WLR, and HFC exemptions are granted. If the Commission has confirmed its draft decision, the "with" scenario under the HFC maybe no regulated access for third parties, but it is not no access. Conversely, if the Commission has not

¹²⁰ Ergas Report, para 32

confirmed its draft determination, the “without” scenario is still access for third parties.

- 104 **Second**, even if the Commission does not agree that the above analysis that there is little practical impact of the sequencing of the exemptions, the legal framework is able to deal with this issue. The Commission’s analysis under the LTIE test necessarily involves identifying and assessing future scenarios. The Commission’s decisions analysis is being made against a complex market environment and in a context where the future is uncertain. Rarely will a decision involve a simple binary comparison of a fixed set of a single before and after scenario in which the only thing that is different is the presence or absence of regulated access to a single service. The scenario analysis tools used by the Commission are more than capable of considering the implications of the HFC exemption being granted in circumstances where the LCS and WLR exemption is in place, or alternatively, the implications of the HFC exemption being granted where the LCS and WLR exemptions are not in place.
- 105 The scenarios in relation to the possible inter-relationships between the exemptions are all knowable now. The scenarios are all being applied within the same timeframe and therefore the market conditions are likely to be the same – indeed because there is an overlap in the ESAs, the Commission and the parties are building up a stronger picture of the factual circumstances in the common area which facilitates the scenario analysis. Given that the exemptions are at different stages through the mandatory decision making period, the scenarios are likely to narrow significantly before the HFC exemption is finalised (as illustrated by the draft LCS and WLR exemption).
- 106 SingTel Optus has demonstrably not been impaired in making submissions in these proceedings. SingTel Optus has already made a 42 page submission on the HFC exemption to the Commission in March 2008 and another 40 page submission in May 2008. Most of the focus in those submissions was on the impacts on SingTel Optus of withdrawal of the ULLS regulation - given SingTel Optus’ business policy in the exemption area is not to take LCS or WLR services from Telstra.¹²¹ It is not evident from SingTel Optus’ submission, and nor did SingTel Optus specify, how it was constrained in making that submission by reason of the uncertainty it says it faces in addressing the HFC exemption.
- 107 The potential of an appeal against one exemption also should not, contrary to SingTel Optus’ assertions, disable the Commission’s analysis in the other exemptions. Given the different timing tracks for the exemptions and the short period in which appeals must be lodged, it is likely that the Commission will know whether the LCS and WLR exemptions are subject to an appeal before the HFC exemption is decided.
- 108 Even if any appeal against the LCS and WLR exemption was upheld subsequent to the HFC decision, the practical impact of the “restoration” of regulated LCS and WLR is unlikely to invalidate the Commission’s LTIE analysis in the HFC exemption and, in any event, is readily addressable by the Commission:
- (a) in the HFC exemption, the Commission would have considered the impact of SingTel Optus not having access to LCS and WLR and so, the impact of the appeal being upheld against the LCS and WLR exemption would be to restore those services only for third parties. However, as noted above, the

¹²¹ SingTel Optus March 2008 Submission, para 2.21

Commission's analysis in the HFC exemption would have taken into account the continued commercial availability of LCS and WLR or other substitutes from the DSLAM operators and Telstra;

- (b) the Commission's scenario analysis in the HFC exemption can readily accommodate consideration of the potential impact on its "without" analysis of the appeal being upheld in respect of third parties. It is not as if the Commission is undertaking assessment of a scenario it would not have had to undertake anyhow. Because there are HFC ESAs not covered by the LCS and WLR proposed exemptions, even in the absence of an appeal, there are ESAs in which the Commission will have to consider the scenario of regulated access for third parties to LCS and WLR and such access being withdrawn from SingTel Optus in those ESAs. If there is an appeal which is not yet resolved, the Commission can extend this analysis to the LCS and WLR ESAs to determine whether it would reach a different view if the appeal was upheld .

109 For these reasons,, it is not credible for SingTel Optus to maintain that the LCS and WLR exemption impacts on SingTel Optus in such a way that SingTel Optus is unable to engage fully in the Commission's consideration of the HFC exemption application. It is also not credible for SingTel Optus to mount an alternative argument that the Commission is unable to consider the HFC exemption before the finalisation of its decision on the LCS and WLR exemption, and any review by the Australian Competition Tribunal. The claims by SingTel Optus that the HFC exemption is not valid for uncertainty is a clear delaying tactic and an attempt to obfuscate and confuse the real issues arising from the HFC exemption application.

7 Conclusion

- 110 Whatever SingTel Optus' woes and complaints about the past may be, the evidence in these proceedings make it clear that:
- SingTel Optus has an HFC network that, even with under-investment, on all the evidence is fit-for-purpose;
 - there is a substantial potential, based on the overseas evidence of directly analogous networks, for SingTel Optus to make the HFC network a very effective competitor with moderate additional investment;
 - SingTel Optus has not made those investments because it has not updated its analysis of key business case inputs for several years, notwithstanding major technical, service and commercial changes during that time that have created much improved opportunities for its HFC network; and
 - SingTel Optus has not produced any information in these proceedings that assesses that opportunity based on current inputs such as cost, penetration and revenues.
- 111 This is critical information to enable the Commission to form an informed view about SingTel Optus' aggregate HFC business *going forward*, based on building out its serviceable homes base and marketing its best combination of telephony, broadband and/or pay TV services to each household in the enlarged footprint. Much of its response to date simply reverts to the assertion that premises are not serviceable, without making the serviceability decision properly transparent in these proceedings.
- 112 Many questions remain unanswered, including:
- What is the exhaustive list of the criteria that SingTel Optus uses to determine whether or not a dwelling (both SDU and MDU) is serviceable by HFC?
 - When did SingTel Optus last review its HFC serviceability criteria, on what basis, and with what result?
 - Can SingTel Optus provide the document/s comprising its internal Business Rule that specifies the HFC must be used in preference to ULL and resale wherever available?
 - In choosing whether to service a home by HFC or ULL, does SingTel Optus use only its HFC serviceability criteria, or does it also reference other factors such as the cost of servicing that customer by ULL?
 - While SingTel Optus may well have a policy to "prefer" to connect homes it regards as serviceable with HFC, how many of those homes are actually connected using ULLS or other regulated access services (i.e: how often has SingTel Optus departed from its preference for HFC and in what circumstances)?
 - Does SingTel Optus serve any MDU customers via HFC? Did it ever do so?
 - Does SingTel Optus treat as unserviceable any MDUs where its HFC extends to the basement of that MDU? If so, why; and when did SingTel

Optus last review its decision not to service those MDUs via HFC, on what criteria and with what result?

- What is SingTel Optus' definition of "business grade" in terms of line rates in each of the upstream and downstream directions? Does this definition refer to SMEs or large corporate customers? Does SingTel Optus differentiate between the capacity required for SMEs and that required for large corporate customers?
- When did SingTel Optus last review the viability of providing "business grade" services using its HFC network or other networks, to customers within its HFC footprint? If so, on what criteria, and with what result?
- Does SingTel Optus have fibre capacity in any of its networks that could serve business customers within the HFC footprint?
- How does SingTel Optus measure and calculate HFC network availability?
- In the event that SingTel Optus' HFC network is disrupted, what are SingTel Optus':
 - mean response times?
 - range of response times?
 - factors which impact upon response times, by city.
- When did SingTel Optus last review the viability of servicing wholesale customers using its HFC network, on what criteria and with what result?
- At what cost and in what timeframe could SingTel Optus make provision to use its existing wholesale back-end IT and other systems to provide wholesale services through the HFC network?
- In what ESAs does Optus have "inactive" infrastructure, including unlit fibre? When was the last time it reviewed its decision not to activate infrastructure in each of these ESAs, on what criteria, and with what result?
- When did SingTel Optus last update its databases of homes passed and homes serviceable?
- Whether (and if so when, and on what criteria) it has ever considered an upgrade to DOCSIS 2/3, and on what basis was this rejected?
- Whether (and if so when, and on what criteria) it has ever considered providing VOB, and on what basis was this rejected?
- Whether (and if so when, on what criteria and with what result) it has considered the business case for node-splitting?
- How does SingTel Optus reconcile the subscriber data provided in these proceedings with that it releases publicly in SingTel's quarterly reports?¹²²

¹²² SingTel 'Management Discussion and Analysis of Financial Condition and Results of Operations', issued quarterly.

- 113 SingTel Optus should be required to answer these questions, and the Commission should have full access to all of SingTel Optus' documents evidencing these matters, in order to make a fully informed decision in these proceedings.

Confidential Attachment 1 – Commercial-in-confidence