TELSTRA CORPORATION LIMITED

Submission to the Australian Competition
and Consumer Commission

Telstra Response to Questions from
ACCC Discussion Paper of October 2007 in
respect of the PSTN Originating Access Service

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Contents

Introduction

This submission responds to issues raised by the Commission's Discussion Paper ("**Discussion Paper**") of October 2007 in relation to Telstra's applications for exemption ("**Exemption Applications**") from the standard access obligations applicable to Telstra in respect of the Domestic PSTN Originating Access Service dated 5 October 2007. Terms used in this submission have the meanings defined by Telstra in its earlier submissions on this matter.

In responding to these questions, Telstra relies on material it has already lodged in support of its application. Specifically, Telstra relies on the following documents which have been provided to the Commission in support of the Exemption Applications:

(i) Telstra Supporting Submission on PSTN Originating Access Exemption Applications ("**Telstra Submission**"), together with the following annexures to that submission;

(ii) Annexure A - Statement by Dr Paul Paterson of CRAI on the Economic Considerations for a PSTN Originating Access Exemption ("**Paterson Statement**");

(iii) Annexure B - [c-i-c];

(iv) Annexure C - [c-i-c];

(v) Annexure D - [c-i-c];

(vi) Annexure E - [c-i-c];

(vii) Annexure F - [c-i-c];

(viii) Annexure G - [c-i-c];

(ix) Annexure H - [c-i-c];

(x) Annexure I - [c-i-c];

(xi) Annexure J - [c-i-c];

(xii) Annexure K - [c-i-c];

(xiii) Annexure L - [c-i-c];

(xiv) Annexure M - [c-i-c];

(xv) Annexure N - Report by Market Clarity prepared for Mallesons Stephen Jaques on

Telecommunications Access Networks in Australian Capital Cities ("**Market Clarity Report**");

(xvi) Annexure O - [c-i-c].

In addition, the following statements are annexed to this submission:

(i) Annexure AA - Statement of Dr Paul Paterson (**Paterson Statement 14 December 2007**");

(ii) Annexure BB - Statement of Dr Paul Paterson on Telstra's WLR/LCS Exemption Applications of 1 November 2007 ("**Paterson Statement on WLR/LCS**");

(iii) Annexure CC - Statement of Craig Lordan ("**Lordan Statement**");

(iv) Annexure DD - Statement of Market Clarity ("**Market Clarity Report on WLR/LCS**");

(v) Annexure EE - Revised Annexure I;

(vi) Annexure FF - Revised Explanatory Statement to Annexure I;

(vii) Annexure GG - [c-i-c]; and

(viii) Annexure HH - [c-i-c].

This remainder of this submission is structured as a response to the specific questions posed by the Commission in the Discussion Paper. Where appropriate and to ensure succinctness, Telstra refers to responses it has made to other sections of the document in instances where the Commission has requested substantially similar information in multiple questions.

Response to Commission Questions

1. Market Definition

1.1 What are the relevant markets that would be affected by the granting of the exemption?

Telstra reiterates its view that the process of defining the relevant markets is purposive in nature (Telstra Submission, pp. 68-9; see also Paterson Statement, 14 December 2007, p. 2). In the present instance, that purpose is to assess whether granting the Exemption Applications would be in the LTIE.

Accordingly, and as discussed in Telstra's Supporting Submission at pp. 64-72 and the Paterson Statement at pp. 5-17 and 17-42, the Commission should consider the impact of the proposed Exemptions on the markets within which PSTN OA is currently provided, as well as a range of related downstream markets. These include wholesale and retail markets, for both voice and data services.

1.2 How should these markets be defined? What evidence of the demand and supply-side substitutability supports that market definition?

(a) Product Market

(i) Retail

Dr Paterson considers that the relevant retail market includes the full bundle of fixed voice services: local, long-distance, international and fixed-to-mobile calls; it also potentially includes broadband services (Paterson Statement, p. 8). This is primarily based on an assessment of existing supply and demand side substitution possibilities (Paterson Statement 14 December 2007, p. 3).

Regarding supply-side substitution possibilities, Dr Paterson considers that barriers to substitution across call types are relatively low (Paterson Statement 14 December 2007, p. 4).

Dr Paterson also notes an increasing trend of substitution away from PSTN-based voice services towards VoIP services. Dr Paterson notes that while this technology is still in its infancy relative to PSTN services, numerous operators are offering the service, and are experiencing substantial growth (Paterson Statement 14 December 2007, p. 4). To the extent that current consumer

perceptions of VoIP are a barrier to its uptake, these are not in accordance with technical realities and are likely to change over time (Paterson Statement 14 December 2007, p. 5). Dr Paterson states:

> "The increasing availability and uptake of VoIP services raises the possibility that such services place some competitive constraint on traditional fixed-line operators" (Paterson Statement 14 December 2007, p. 5)

Therefore, Telstra encourages the Commission to give careful consideration to the ever increasing impact of VoIP on supply-side substitution.

Turning to demand side factors, Dr Paterson cites the increasing preference of fixed-line consumers for bundled products. Accordingly, he considers that if a hypothetical monopolist offering just one voice product were to impose a price increase, there would be scope for consumers to switch to bundled offerings, thus rendering the increase unsustainable (Paterson Statement 14 December 2007, p. 3).

Furthermore, there is likely to be a cluster market for full bundle of retail fixed voice services (Paterson Statement, pp. 8-9), given the existence of costs of unbundling in demand and supply (Paterson Statement, p. 8).

On the demand side these costs include the inconvenience of receiving multiple bills, and the cost of dealing with multiple providers (Paterson Statement, p. 8) Supply side costs include: billing, acquisition, customer retention costs, as well as network costs (Paterson Statement, p. 8).

The existence of a retail cluster is also supported by actual customer purchasing trends. Almost all customers buy a bundle of fixed-line services (Paterson Statement, p. 9); for example, retail consumption of HomeLine Part and BusinessLine Part has dropped significantly (Paterson Statement, p. 9).

A broad retail market is also justified on the grounds of commercial reality. Telstra, SingTel Optus, Primus and AAPT all include local, national, international, and fixed-to-mobile calls in their standard home phone package (Paterson Statement, p. 10). In addition, carriers seek to maximize revenue by selling as many voice services as possible to each customer, to minimise fixed and common costs (Paterson Statement, p. 10).

(ii) Wholesale

Retailers without their own network can consider a range of wholesale options from which to obtain the necessary input services. These include, in order of increasing sophistication: a full resale suite from Telstra (and other providers); resale broadband to provide VoIP; LSS/ULLS together with other inputs, to provide VoIP; ULLS, together with other inputs, to provide STS; and self-supply of all network facilities (Paterson Statement, p. 12). Dr Paterson states:

> "This prima facie suggests PSTN OA sits in a relatively broad wholesale market" (Paterson Statement, p. 12).

However, from a purposive perspective, the key issue is whether adequate wholesale alternatives to PSTN OA exist such that if the Exemption Applications were granted, retail competition would be promoted (or at least not harmed - Paterson Statement, p. 12). This in turn depends on alternatives to PSTN OA - as discussed at pp. 17-45 of the Paterson Statement. In that regard, Dr Paterson observes that:

> "…there in fact exist alternatives for PSTN OA, and…there appear to be few impediments to effective use of these alternatives." (Paterson Statement, p. 12).

From his extensive analysis in section 3 of his statement, Dr Paterson concludes that the relevant wholesale market is broad, and includes at least ULLS, the SingTel Optus HFC network and other competing fixed-line networks (Paterson Statement, p. 12).

(b) Geographic Markets

Although there are significant common issues that affect the geographical market definition relevant to CBD and metropolitan areas, there are additional issues in relation to CBD areas (Paterson Statement, p. 13). Accordingly, they are considered separately.

(i) Metropolitan Areas

Dr Paterson considers the availability of demand and supply substitutes in arriving at his proposed geographic market definition (Paterson Statement, pp. 13-16).[1]

Commencing with the consideration of actual and potential demand-side substitutes, Dr Paterson notes that demand substitution analysis might confine the market to the customer premise (Paterson Statement, p. 13; Paterson Statement 14 December 2007, p. 6). Turning to the

[1] This approach is in conformity with that recommended by the Commission in its "Merger Guidelines" (1999): "Delineation of the relevant geographic market (or markets) involves the identification of the area or areas over which the merged firm and its rivals currently supply, or could supply, the relevant product and to which consumers can practically turn": p, 36, §5.61.

issue of actual and potential supply-side substitutes, Dr Paterson observes the relative ease with which an additional customer may be added within a particular ESA once a DSLAM is installed (Paterson Statement 14 December 2007, p. 6). This suggests an ESA-based geographical market definition.

However, Dr Paterson indicates that while an ESA-based geographic delineation is the most logical choice, a broader market could also be defined, encompassing, for example, ESAs with similar competitive characteristics (Paterson Statement 14 December 2007, p. 6).

Accordingly, Dr Paterson also considers whether supply-side substitution between exchanges is possible. He considers it might well be, and concludes that it might be appropriate to expand the relevant geographical market to include exchanges within a general area that exhibit broadly similar competitive conditions (Paterson Statement, p. 14).

Dr Paterson notes that a hypothetical monopolist in one ESA could be constrained by the threat of entry from a DSLAM-based operator in a nearby ESA with similar competitive characteristics (Paterson Statement 14 December 2007, p. 6).

However, he considers that the scope for such supply-side substitution is more limited than it is within the ESA (Paterson Statement 14 December 2007, p. 6). Accordingly, Dr Paterson considers that an exchange-based approach is more suitable for the present assessment (Paterson Statement, p. 15).

(ii) CBD Areas

Turning to CBD areas, Dr Paterson concludes that while the demand-side considerations are the same, there are additional supply-side considerations (Paterson Statement, p. 15). In particular, business customers in CBD areas can be accessed via full facilities networks, including entrant fibre-based networks, as well as direct microwave links to customers. These are in addition to access via Telstra's exchange-based copper network (Paterson Statement, p. 16). While these might suggest a CBD-wide geographic definition (Paterson Statement, p. 16), an exchange-based approach remains prudent (Paterson Statement, p. 16).

(c) Temporal Markets

Telstra agrees that it is appropriate to consider the appropriate time within which substitution possibilities may be assessed (Telstra Submission, pp. 71-72), and considers that three years is a useful period within which the likely emergence of substitution possibilities may be assessed (Telstra Submission, p. 72).

(d) Functional markets

For the purposes of this inquiry, Telstra considers it appropriate for the Commission to proceed on the basis of discrete retail and wholesale markets.

1.3 Are the markets identified by the ACCC in the July 2006 Declaration Inquiry still relevant? Are there any other markets that the ACCC should/should not consider?

Telstra considers that the market definitions it has proposed are appropriate. Telstra does not endorse the precise market boundaries that are suggested in the Commission's 2006 Final Decision in relation to PSTN OA. In particular, Telstra is doubtful that a separate market for customer access services is appropriate. Rather, Telstra considers that customer access services are provided as part of broader retail and wholesale markets, for the reasons outlined above. However, Telstra contends that the Exemptions promote the LTIE even if the Commission were to adopt a narrower view of the relevant markets as set out in the Commission's 2006 *Final Decision*.

In addition to the markets identified in the Commission's 2006 Declaration Inquiry, Telstra considers that the increasing availability and uptake of mobile (including HDPA based wireless that can deliver high quality fixed voice services (see SingTel Optus's and Vodafone's recent announcements on upgrades) and VoIP (fixed and wireless) services raises the possibility that such services may begin to place a competitive constraint on traditional fixed-line operators (Paterson Statement 14 December 2007, pp. 3-4).

1.4 Is Telstra's approach to defining its exemption area - at least, one DSLAM-based competitor in each exchange - an appropriate one?

Telstra proposes separate decision rules for Band 1 and Band 2 ESAs.

For Band 1, the existence of substantial competitive alternatives to PSTN OA implies that all ESAs should be exempted (Paterson Statement, p. 43). This includes extensive fibre based networks (see Paterson Statement, pp. 23-24, and Market Clarity Report), as well as fixed and mobile wireless networks (Paterson Statement, pp. 25-26). This is also consistent with the view expressed by the Commission in 2002, that there is a preponderance of alternative local access networks in all CBD areas.[2]

For Band 2, an ESA should be included in the Commission's Exemption Order where at least one

[2] Commission, "Future Scope of the Local Carriage Service: Final Decision", July 2002, pp. 20-23.

DSLAM has been installed in that ESA by a competitor of Telstra (Paterson Statement, p. 47).

Telstra adopts this view on the basis that the presence of at least one competitor DSLAM indicates that there are no material barriers to competitive entry by ULLS-based operators (see Paterson Statement, p. 44). Furthermore, this conclusion is reinforced by economic analysis (Paterson Statement, p. 45). Details of Dr Paterson's analysis as to the height of current barriers to DSLAM-based entry are detailed at pp. 35-42 of his Statement, and are summarized below at response 2.5.

Finally, Telstra considers that the proposed one-DSLAM rule would be a "low-risk" one for the Commission to adopt. This is because:

- it is possible for new entrants to purchase the assets or outgoing DSLAM-based competitors;
- there are no material barriers to ULLS-based expansion for such competitors;
- there exist alternative fixed-line networks that provide an effective alternative to the PSTN OA service, including SingTel Optus's and other HFC networks;
- wireless networks currently offer some competitive constraint and will become increasingly close substitutes for fixed-line services; and
- there is a relatively small number of ESAs in the Band 2 Exemption Area with only one DSLAM presently deployed (Paterson Statement, p. 45).

1.5 Is the data that Telstra used, based on publicly available information, sufficiently robust to allow the ACCC to be confident about the deployment of DSLAMs in the proposed exemption area?

Telstra has gone to considerable lengths to develop robust estimates of current DSLAM deployment, including by harnessing its considerable corporate resources (while observing its confidentiality obligations to its wholesale customers), and obtaining the opinions of independent experts.

Furthermore, these estimates are likely to be conservative. For example in his report, Dr Paterson has been careful not to double count DSLAM infrastructure that is utilised by resellers. Telstra has also been careful to take account of recent takeover and resale developments among telecommunications providers, once again to avoid double counting (see Telstra Submission, p. 21).

On that basis, and given the opportunity afforded access seekers to scrutinize these estimates in this public inquiry, Telstra considers that the Commission can confidently make its decision on

the basis of them. Nevertheless, the Commission has the power to corroborate these estimates, either by conducting its own research, or by making targeted use of its information gathering powers to elicit information from Telstra and other carriers and carriage service providers (see Telstra Submission, p. 21). The Commission will also have the benefit of examining the data contained in responses to its recently issued *Telstra CAN Record-keeping rule* (RKR).

1.6 What further data, if any, would the ACCC need to extent of competition in the proposed exemption area?

For the reasons set out in response 1.5 above, the ACCC can be confident in making its decision on the basis of these estimates. Nevertheless, Telstra invites the Commission to corroborate its estimates, either by conducting its own research, or by making use of its information gathering powers to elicit information from Telstra and other carriers and carriage service providers (see Telstra Submission, p. 16).

2. Promotion of Competition

2.1 What alternative providers to Telstra of PSTN OA currently operate in the wholesale market?

Telstra concurs with Dr Paterson's view that placing too great a focus on the wholesale market for PSTN OA is misplaced, since the primary consideration should be competition in the retail fixed voice market (Paterson Statement 14 December 2007, p. 12). This is particularly the case in circumstances where the wholesale market structure described by the Commission has fundamentally arisen due to the availability of the regulated resale services, PSTN OA (in conjunction with wholesale line rental (WLR), the local carriage service (LCS) and terminating access (TA) (Paterson Statement 14 December 2007, p. 12).

Nevertheless, Telstra considers that the following technology platforms permit its competitors to offer services similar to PSTN OA in the Exemption Area.

DSLAM-based infrastructure currently provides a means of supplying PSTN OA-like services. Dr Paterson states:

> "In my view, the availability of ULLS at prices intended by regulatory design to emulate the prices that would emerge in a competitive market is sufficient to allay

the Commission's concern - ULLS based supply is in fact equivalent to the self-supply of PSTN OA-like services" (Paterson Statement 14 December 2007, p. 12).

Other sources of infrastructure-based competition exist, including cable networks and fixed-wireless networks; see Telstra Supporting Submission, pp. 16-33 and Paterson Statement, pp. 17-43. The significant penetration of mobile services across Australia provides a further layer of competition; see Paterson Statement, p. 21. Telstra also refers the Commission to its response at 2.3 below.

In order to deal with a similar issue in the context of Telstra's Exemption Applications in respect of the declared LCS and WLR services, Telstra sought the opinion of an independent expert, Market Clarity. That opinion is also relevant here. Based on its extensive database of Australia's voice service providers, Market Clarity considers that five PSTN network owners offer national voice network coverage, including support for regional customers (see Table 1, p. 15 of Market Clarity Report). Of these, four offer facilities-based PSTN services, and two offer facilities-based VoDSL services. In addition, ten carriers currently offer wholesale VoIP services based on their own facilities.

Finally, it should be emphasized that it is not necessary for there to be an active wholesale market for PSTN OA-like services. Rather, the material issue to be considered is whether market participants could respond to a potential withdrawal (or supra-competitive pricing) of PSTN OA by self-supplying PSTN OA equivalent services (including resale of various fixed line services), or through the development of an actively traded wholesale market for PSTN OA equivalent services (Paterson Statement 14 December 2007, p. 12).

2.2 Do these providers offer any significant competitive constraint on the pricing of the PSTN OA?

Telstra's response should be read in conjunction with its discussion at 2.3 below about currently available alternative technologies. For these reasons, Telstra considers that these providers indeed provide significant constraints.

(i) ULLS

ULLS and wholesale inputs supplied on alternative fixed line networks are alternative means for providing downstream services supplied using PSTN OA (Paterson Statement, p. 17). Accordingly, competing services are in place which act (or could readily act) as an alternative to the PSTN OA service (Paterson Statement, p. 18).

(ii) Alternative fixed networks

It appears uncontroversial that alternative fixed line access networks (such as HFC and fibre loops and spurs) enable network providers to offer voice and broadband services which potentially act as a constraint to Telstra's retail and wholesale fixed line service offers (Paterson Statement, p. 21). In CBD areas, competing access networks offer sufficient constraint to warrant exemption across all 17 ESAs (as recognized by the Commission when it carved out those areas from declaration of LCS and WLR). In metropolitan areas, Telstra's adoption of its "one DSLAM rule" represents a conservative approach to the competitive constraint imposed by HFC networks.

(iii) Wireless networks

Dr Paterson considers that both fixed and mobile wireless networks place some constraint on Telstra's pricing of PSTN OA (Paterson Statement, pp. 21-22).

(iv) Microwave links

In CBD areas, a number of operators provide microwave links to major clients, over which the full range of telecommunications services (voice, data and broadband more generally) can be provided. These are a means of providing a direct alternative to PSTN OA (Paterson Statement, p. 22).

2.3 What infrastructure do alternative wholesale providers use?

There are three main categories of alternative infrastructure: the ULLS; alternative fixed networks; and wireless networks.

(i) ULLS

Use of the ULLS permits an access seeker to provide both a standard telephone service and broadband services (Paterson Statement, p. 18). The use of DSLAMs to deliver voice and data services over the ULLS is described in detail in [c-i-c], and at [c-i-c]. Use of the ULLS is expected to rise significantly in the medium term. Between 2005-06 and 2011/12, the number of ULLS SIOs is expected to rise from [c-i-c] to [c-i-c] ([c-i-c]). Furthermore, significant rollout of the DSLAM infrastructure necessary to use the ULLS has occurred in recent years. As of August 2007, at least four access seekers had deployed DSLAMs in all Band 1 exchanges (Paterson Statement, p. 23). And 387 (of 584) Band 2 ESAs can now be reached by DSLAMs (Paterson Statement, p. 27). Of these, 324 have two or more ULLS-based competitors, 241 have three or more, and 148 have

four or more (Paterson Statement, p. 27).

(ii) Alternative fixed-line networks

Telstra considers it to be uncontroversial that alternative fixed line access networks (such as fibre and microwave networks in CBD areas and the SingTel Optus HFC network in metropolitan areas) enable network providers to offer voice and broadband services which potentially act as a constraint to Telstra's retail and wholesale fixed line service offers (Paterson Statement, p. 21).

Current alternative network ownership is shown in Table 1 of the Market Clarity Report (p. 6). Cable based networks are present in 205 ESAs in the Exemption Area (Telstra Submission, p. 25). These include SingTel Optus's HFC network, which is present in 200 ESAs and passes 2.2 million addresses.[3] TransAct, Neighbourhood Cable and E-wire also operate networks in Australia (Telstra submission, p. 25).

In addition, numerous carriers have built optical fibre loops in CBD areas over the past decade; there are now eight or more operators in every CBD (Paterson Statement, pp. 24-25). Some CBDs have as many as 14 fibre-based operators (Market Clarity Report, Table 1).

(iii) Wireless networks

Both mobile and fixed wireless networks should be regarded as imposing some competitive constraint on the current provision of PSTN OA services.

In comparison with its 11.3 million fixed SIOs, Australia now has 19.7 million mobile SIOs (Paterson Statement, p. 32). Wireless networks now cover 96% of Australia.[4] Fixed-to-mobile substitution is evident in Australia. As mobile minutes consumed have increased, local calls, STD and IDD calls have declined in parallel (Paterson Statement, p. 33).

Wireless broadband networks have now achieved wide coverage in metropolitan Australia (Paterson Statement, p. 34). There are at least two fixed wireless operators in each Australian capital city; Melbourne has twelve, Sydney ten and Brisbane eight (Market Clarity Report, Table 1). Some 320 ESAs are now covered by competitors' fixed wireless networks (see Table 8, Paterson Statement, p. 35); for example, iBurst now operates in 200 ESAs, and Unwired in 143.

2.4 Is competition in downstream markets currently effective?

[3] SingTel Optus Media Release, *Cable & Wireless Optus Demonstrates Success of Bundling Strategy*, 31 March 1999; see also Paterson Statement, pp. 32-33.

The markets in which the PSTN OA is supplied are contestable and workably competitive (Telstra Submission, p. 33). In support of this view, Telstra relies on Dr Paterson, who states:

> "Rather, I am of the view that the retail market is indeed currently competitive" (p. 93).

Within both CBD and metropolitan areas, many companies use either their own infrastructure, or resale capacity, to provide fixed voice, high speed broadband and related products. Typically, these firms offer bundled voice services (Telstra submission, p. 34).

Several broad categories of fact support this conclusion.

(a) Changes in market shares

Telstra's market share has declined significantly in fixed telephony. By 2004-05, Telstra had lost 25% market share over all PSTN retail services (Paterson Statement, p. 93). Its revenue from local call services has declined by 25%; and for IDD and STD by 40% and 30% respectively.

Regarding broadband services, both Telstra and SingTel Optus have lost market share to ULLS and LSS-based carriers, ISP resellers and wireless broadband networks (Paterson Statement, p. 95). In the broadband market, Telstra's market share has fallen from over 50% in 2002 to 40% in 2006, while SingTel Optus's market share has fallen from 29% to 20% in the same period (see Table 11, p. 96 Paterson Statement).

(b) Switching costs and customer churn

The telephony market has seen nearly a decade of market reforms and developments aimed at reducing customer switching costs, including:

- the introduction of number portability; and
- the ability of consumers to compare carrier offerings via the internet (Paterson Statement, p. 97).

Retail churn rates also indicate the presence of workable competition. Between July 2001 and April 2007, [c-i-c] SIOs "churned in" to Telstra, and [c-i-c] "churned out" (Paterson Statement, p. 97-98; see also [c-i-c]). Likewise for broadband services, BigPond services have seen customer churn rates of [c-i-c] per annum over the past five years (Paterson Statement, p. 99; see also [c-i-

[4] ACMA, "Communications Infrastructure and Services Availability in Australia 2006-2007" (2007), p. 22.

c]).

2.5 Are Telstra's statements about the low barriers to entry to DSLAM-based infrastructure accurate?

Telstra considers that there are no material barriers to DSLAM-based entry and expansion within the Exemption Area. It relies in this regard on the expert view of Dr Paterson, who considers five potential barriers to entry:

(i) the sunk costs of ULLS supply (pp. 36-37 Paterson Statement);

(ii) minimum efficient scale considerations (pp. 38-39 Paterson Statement);

(iii) technical constraints to providing an STS voice service (p. 39 Paterson Statement);

(iv) backhaul costs (p. 40 Paterson Statement); and

(v) non price impediments (pp. 40-41 Paterson Statement).

As a result of his analysis, Dr Paterson considers that none of these is likely to give rise to a material barrier to entry (Paterson Statement, pp. 35-40). The reasons for this conclusion are summarized below.

(i) The sunk costs of ULLS supply

Where these exist, they can be minimized (e.g. by purchasing traditional switched technology from existing network operators (Paterson Statement, p. 37). Consequently, they are unlikely to give rise to material barriers to entry.

(ii) Minimum efficient scale considerations

Telstra summarizes its submissions in relation to the MES for DSLAM-based entry within the Exemption Area at response 2.17 below. The MES of up to [c-i-c] SIOs for ULLS and up to [c-i-c] SIOs for LSS is a small fraction of the total number of SIOs in any given ESA within the Exemption Area (see Revised Annexure I; Paterson Statement, pp. 67-92; Paterson Statement 14 December 2007, p. 24). While these estimates might rise should retail price reductions occur following an Exemption Order, this should be of no concern to the Commission, since it would show increased competition (Paterson Statement, p. 38) In addition, these MES estimates are sufficiently low to provide leeway for some price reductions (Paterson Statement, p. 38).

Furthermore, the MES in relation to voice-only customers is unlikely to be significantly higher, since the incremental cost of an additional voice-only customer for a ULLS-based operator is low with respect to incremental revenue (Paterson Statement, p. 38).

Accordingly, MES issues are not likely to be a barrier to ULLS-based entry (Paterson Statement, p. 39).

(iii) Technical constraints to providing a STS voice service

Voice services may be delivered using DSLAM-based technology in conjunction with either standard switching technology (ULLS only), POTS emulation (ULLS only) or VoIP (ULLS or LSS) (Paterson Statement, p. 17; see also [c-i-c]). There is no technical impediment to an access seeker offering carrier grade VoIP. As Dr Paterson observes, an increasing number of operators have begun offering VoIP to end-users (Paterson Statement 14 December 2007, p. 4).

(iv) Backhaul costs

The market within which backhaul transmission services are provided is mature, and operators may purchase call charge area transmission services from numerous carriers (Paterson Statement, p. 39). Furthermore, the transmission service required for backhaul is either a declared service, or else is provided in a competitive market. Dr Paterson concludes:

> "On this basis, it is difficult to conceive that access to these services creates a barrier to ULLS entry." (Paterson Statement, p. 39).

(v) Non-price impediments

It unlikely that use of the ULLS would be impeded due to non-price conduct by Telstra, since Part XIB of the Act, in conjunction with Telstra's Operational Separation Requirements, is likely to provide adequate safeguard against such concerns (Paterson Statement, p. 42). Furthermore, it would not be profitable for Telstra to degrade the quality of its services, since this would also be likely to reduce access seeker demand for Telstra's services in wholesale markets (Paterson Statement, p. 40).

(vi) Conclusion

In conclusion, Dr Paterson states:

> "Retailers currently using PSTN OA appear to face few material barriers to switching to use of ULLS. Retailers already using ULLS face even lower barriers to expansion." (p. 35).

2.6 Are DSLAMs a significant competitive presence for the provision of wholesale and retail PSTN services? What percentage of DSLAMs currently would be capable of providing traditional voice services as opposed to only DSL broadband?

Telstra considers that the services provided by access seekers via the ULLS, using DSLAM technology in conjunction with appropriate switching, transmission and other commercial arrangements such as billing and customer service, can provide a meaningful competitive constraint on the services currently supplied using the declared PSTN OA service.

In particular, while access to PSTN OA services permits an access seeker only to deliver fixed voice service, the ULLS provides full capacity to the copper wire between Telstra's local exchange and an end user. This permits the provision of both a STS-equivalent voice service, and broadband services (Paterson Statement, p. 18).

Furthermore, given that access seekers are in fact both acquiring access to the ULLS, and installing the necessary DSLAM equipment to facilitate ULLS, it is clear that they regard ULLS-based supply as viable (Paterson Report, p. 18).

Finally, the ease with which an entrant which provides VoIP services using LSS may switch to providing voice services using ULLS (eg: via POTS emulation or carrier grade VoIP), acts as a constraint to existing fixed line telephony services, confirms this view (Paterson Statement, p. 20).

2.7 Do cable and fixed wireless networks or VoIP services or mobile services provide a material constraint on the pricing of the PSTN OA? Is there any evidence of substitution between all these options?

The deployment by Telstra's competitors of both these technologies provides a material constraint on Telstra's pricing of PSTN OA. In particular Telstra relies on the views of Dr Paterson, who states:

> "It appears uncontroversial that alternative fixed line access networks (such as fibre and microwave networks in CBD areas and the SingTel Optus HFC network in metropolitan areas) enable network providers to offer voice and broadband services which potentially act as a constraint to Telstra's retail and wholesale fixed line service offers." (Paterson Statement, p. 21).

Dr Paterson also states:

"I nevertheless consider it uncontroversial that mobile services place some constraint on the price of fixed voice telephony services" (Paterson Statement, p. 21); and

"I nevertheless believe that the scope to supply VoIP over fixed wireless networks provides some constraint on Telstra's pricing practices" (Paterson Statement, p. 22).

Furthermore, voice services provided over LSS or ULLS (including VoIP) can be indistinguishable from STS (Paterson Statement, p. 19; see also [c-i-c]). VoIP services:

- are currently supplied by 260 providers to over 100,000 SIOs;[5]
- this may increase to 2.8 million services by 2011;
- are currently available via DSLAM-based, CBD fibre networks and fixed wireless infrastructure; and
- have been recognized by the Commission as likely to affect pricing of fixed voice services in future.[6]

Substitution away from PSTN OA may also be discerned; in the three-year period to February 2007, PSTN OA volumes declined by [c-i-c] (Paterson Statement, p. 22). In addition, with mobile penetration reaching saturation point,[7] fixed-to-mobile substitution is clearly evident (Paterson Statement, Figure 9, p. 33).

2.8 What are the relevant trends in retail markets for PSTN voice services? Is that evidence of end-users switching away from PSTN voice services?

Substitution away from PSTN services and towards ULLS is currently evident (Paterson Statement, Figure 17, p. 95). Over the twelve-month period to May 2007, demand for Telstra's WLR declined by over [c-i-c] per cent, while demand for Telstra's retail line rental remained relatively flat. At the same time, ULLS-based infrastructure increased 100%. (Paterson Statement, p. 94).

Furthermore, the [c-i-c] per cent decrease in the number of wholesale LCS services (shown in Figure 17 at p. 95 of the Paterson Statement) is indicative of consumers taking advantage of

[5] According to the Paterson Statement of 1 November 2007, there may be as many as 200,000 VoIP SIOs: p. 3.
[6] ACCC, "Changes in the Prices Paid for Telecommunications Services in Australia 2005-2006", available from http://www.accc.gov.au/content/index.phtml/itemId/788067, at 20.
[7] wik-Consult, "Mobile Terminating Access Service: Network Externality and Ramsey Pricing Issues", available from http://www.accc.gov.au/content/index.phtml/itemId/609090/fromItemId/269280, 48-49.

alternative communication technologies - such as mobile wireless services, VoIP, SMS or email - where previously they used voice telephony, as well as a shift to alternative fixed networks (Paterson Statement, p. 95).

2.9 In the absence of a declared PSTN OA service, would competition in downstream retail markets for relevant services be effective?

The strong degree of facilities-based competition presently evident within the Exemption Area (Paterson Statement, p. 49) would not be compromised by granting the Exemption Applications (Paterson Statement, p. 54). This is primarily because of the availability of viable wholesale substitutes (Paterson Statement, p. 49). Accordingly, any attempt by Telstra either to foreclose the supply of PSTN OA, or to raise its price, would be defeated by competitive supply from ULLS or from full facilities-based competitors (Paterson Statement, p. 49).

In relation to the likely impact of the Exemption Orders on pre-selection and voice resale activity within the Exemption Area, Dr Paterson observes that to the extent that these business models are creatures of regulation, they may disappear, as discussed further below. Alternatively, exemption might lead to the emergence of effective wholesale substitutes for PSTN OA (Paterson Statement, p. 50).

(a) Pure pre-selection operators

Telstra relies on the view of Dr Paterson, who considers that this business model is no longer necessary, and is in any case a very small and diminishing part of the voice telephony market (pp. 50-52). Alternatively, if the Exemption Applications are granted, pure pre-selection-based operators may seek an equivalent wholesale service, change their business model (eg: by becoming a full voice reseller), or exit the market (Paterson Statement, p. 51). However, In this regard, Telstra reminds the Commission that in assessing the likely impact of the Exemption Applications on the LTIE, it should have regard to likely impacts on the process of competition, rather than the likely impacts on particular competitors.

(b) Override operators

This class of provider is likely to face a similar scenario to pre-selection operators if the Exemption Applications were granted. However, their presence in the relevant market(s) is currently limited (Paterson Statement, p. 52).

(c) Voice resellers

These firms would be in a stronger position to self-supply the ULLS than those mentioned in (a) and (b) above (see Paterson Statement, p. 53). Furthermore, they are likely to have alternative sources of wholesale supply to turn to. For example, PowerTel is a ULLS-based service provider supplying unbundled wholesale voice and data products as well as self-supplying these services (Paterson Statement, p. 54).

2.10 In the absence of access to a declared PSTN OA in the CBD and metropolitan exemption areas, would such firms provide a meaningful constraint on the pricing of the PSTN OA or equivalent services?

As with the question immediately below, this question appears to be misguided, for the reasons set out in the Paterson Statement 14 December 2007, at p. 10. Nevertheless, the availability of ULLS at prices intended, by regulatory design, to emulate the prices that would emerge in a competitive market should allay any of the Commission's concerns.

In addition, where an unconditioned access line could be leased at prices approximating those that would be negotiated in a competitive environment, it is likely that basic access and voice services would typically be sold as part of a bundled service (Paterson Statement 14 December 2007, p. 12).

In addition, to the extent there is efficient demand for resale services, then, given the availability of substitute services, Telstra and its rivals would supply such services.

2.11 Would Telstra be likely to continue to supply the PSTN OA in the absence of declaration?

Telstra is concerned that this question places undue importance on the state of the wholesale market for originating access (see Paterson Statement 14 December 2007, p. 7). In particular, the tenor of this question appears to place excessive weight upon the assumption it would be in the LTIE for PSTN OA to continue to be supplied in its current form.

Nevertheless, due to the competitive constraints imposed on each ESA (in particular by the presence of DSLAM-based entry) Telstra will have an incentive to continue to supply PSTN OA to maximize utilisation of its own network assets (Telstra Submission, p. 55).

However to the extent that the market would be better served by a carrier model based on vertical integration, the need for an actively traded wholesale market may be diminished. However, such a diminution should not necessarily be regarded as a lessening of competition in the broader sense. Rather, it would provide evidence of participants aligning their business strategies with the efficient signals provided by the market.

2.12 Are PSTN voice services replicable through the use of:

- *DSLAMS?*
- *Traditional voice switching equipment?*
- *Soft switches?*

The Commission's questions are best answered together, as the options given for potential technologies are a mix of substitutable and potentially substitutable technologies which may be able to provide PSTN-equivalent voice services depending on how they are utilised. Within the Exemption Area, multiple access networks (DSLAM, fibre, HFC and fixed wireless based) exist which are capable, in conjunction with switching and transmission infrastructure, of providing substitute voice services to those provided via PSTN OA.

Voice services which have traditionally been provided via PSTN OA can also be provided to end users via the ULLS or LSS, including through the use of DSLAM technology (see Telstra Submission, Box 2 pp. 21-22; and Paterson Statement, pp. 18-21). ULLS access seekers can employ circuit-switched voice services utilising the voice spectrum of a ULLS line. LSS access seekers can also provide PSTN-equivalent voice services.

A ULLS access seeker can deliver calls from a customer connected to its ULLS network using standard switching technology ([c-i-c]; [c-i-c]). A voice service delivered in this manner is similar to the standard telephone service supplied by Telstra to its customers (see [c-i-c]).

Using technology known as "POTS emulation", a ULLS access seeker is able to deliver a voice service that is functionally equivalent to that delivered using circuit switching technology (see further [c-i-c], and the Paterson Statement, p. 102).

Access seekers may deliver a VoIP service to end-users using either a ULLS or LSS connection. Carriers can ensure their service is 'carrier grade' and of equivalent quality to traditional services by implementing 'quality of service' protocols for the carriage of VoIP calls on their network; see [c-i-c]; [c-i-c]).

- *alternative infrastructure such as fixed wireless of HFC cable networks?*

PSTN equivalent voice services (and high speed broadband services) can also be replicated on alternative access networks.

Within Band 1, Telstra's competitors have deployed extensive optical fibre loops over the past

decade (Paterson Statement, pp. 24-25; Telstra Submission, pp. 16-18; Market Clarity Report, pp. 6-8). In a report commissioned by Telstra and attached to its submission as Annexure N, independent market researcher Market Clarity has found that the number of CBD fibre access networks has grown in CBD areas, with 20 companies operating 55 networks in the CBD Exemption Area as at September 2007 (see Table 2, Telstra submission p. 18 and Market Clarity Report, p. 7).

In addition, there are several fixed wireless networks currently operating in Band 1. These are indicated in Table 3 of Telstra's submission at p. 19, as well as the Market Clarity report at pp. 8-9. These networks are capable of supplying a full suite of voice and data products in competition with those offered via Telstra's PSTN.

These networks have also achieved broad coverage throughout metropolitan Australia. In many metropolitan areas, an end customer can be reached by at least one, and often two, three and four fixed wireless networks (see Figure 10 and Table 8, Paterson Statement pp. 34-35).

In Band 2, the most extensive alternative fixed-line network to Telstra's is SingTel Optus's hybrid fibre coaxial (HFC) network, which can reach [c-i-c] ESAs in New South Wales, Victoria and Queensland (Paterson Statement, p. 31). Other alternative fixed network providers include TransACT, Neighbourhood Cable, PowerTel, Soul Pattison Telecommunications and E-Wire (see Paterson Statement, p. 31). Dr Paterson comments:

> "These networks, especially those recently rolled out (such as TransAct's and e-wire's network, strongly suggest that in Bands 1 and 2, full facility-based entry is generally viable" (Paterson Statement, p. 32).

2.13 Are Telstra's statements about the competitiveness of VoIP and mobile services accurate? Are these services an effective substitute to PSTN services?

VoIP telephony products are increasingly being offered as fully-featured substitutes to PSTN telephony. From a technical perspective, there are few (if any) barriers to providing carrier-grade services to end customers using VoIP technology ([c-i-c]). Furthermore, as Dr Paterson observes, the barriers to providing such services from an economic perspective are not significant (Paterson Statement, pp. 35-40).

The relative ease with which carriers may provide VoIP services to customers is reflected in increasing provision of these services. It is estimated that there are over 260 VoIP providers throughout Australia, with almost 100,000 paid VoIP services in operation, which is estimated to climb to more than 2.8 million services by 2011 (Telstra Submission, p. 36). Carriers offering VoIP

via DSLAM-based technology within the Exemption Area include AAPT, Primus, SingTel Optus, iiNet, Soul and Internode (Telstra submission p. 36; see also Market Clarity Statement on WLR/LCS, Table 4 p. 20). The last few months have seen the announcement of new VoIP initiatives by SingTel Optus and engin. These include a 'triple play' by SingTel Optus including VoIP services using the SingTel Optus ULLS network, and engin's announcement on 1 October 2007 of its release of a "$0 VoIP adaptor" for customers on a 12 month service contract (Telstra Submission, pp. 37-38).

The scope for VoIP services to compete with traditional PSTN services is likely to be enhanced by the forthcoming delivery of "Naked DSL" services, which provide broadband products based on the ULLS without an underlying PSTN voice service (see Box 4, Telstra submission p. 36). These services may include a VoIP telephony service. iiNet recently launched a "naked broadband" service provided over ULLS-based DSLAMs. As well as providing broadband services (without a line rental charge), this service includes free local and national VoIP calls.[8]

According to Dr Paterson:

> "This indicates that even if VoIP cannot be viewed as a fully substitutable service at present it may become so in the near future." (Paterson Statement 14 December 2007, p. 4).

And further:

> "The increasing availability and uptake of VoIP services raises the possibility that such services place some competitive constraint on traditional fixed line operators." (Paterson Statement 14 December 2007, p. 5).

Accordingly, the increasing competitive discipline imposed by VoIP upon Telstra's pricing of its fixed line services is a material matter to which the Commission should give weight in reaching its decision.

In addition, with mobile subscription penetration reaching saturation point, mobile services are becoming increasingly substitutable for fixed line services (Telstra Submission, p. 38).

Mobile calls are increasingly able to act as a substitute to PSTN OA services. Compared to 11.3 million fixed services in operation, there are now 19.7 million mobile services in operation, and wireless networks presently cover 96% of Australia (Paterson Statement, p. 32).

[8] "iiNet 'naked and proud' DSL launched", *Communications Day*, 16 November 2007.

That mobile calls are able to act as an effective for fixed voice services can be seen from fixed-to-mobile substitution in Australia. Between 2003 and 2006, local, STD and IDD call volumes have all declined, at the same time as mobile minutes have increased (Paterson Statement, Figure 9 p. 33). With the widespread adoption of mobile technology and the increasing affordability of the service, mobile calls increasingly act as a substitute for fixed voice telephony services (Paterson Statement, p. 32).

2.14 Is there any significant difference in competitive conditions between an ESA with one competitive DSLAM and an ESA with two or more competitive DSLAMs?

The intense nature of competition in Band 1 is due not only to the presence of DSLAM-based infrastructure, but also competing fibre loops and wireless networks (see Paterson Statement pp. 23-27, Market Clarity Report). Moreover, there are at least four DSLAMs in every Band 1 ESA (see [c-i-c]).

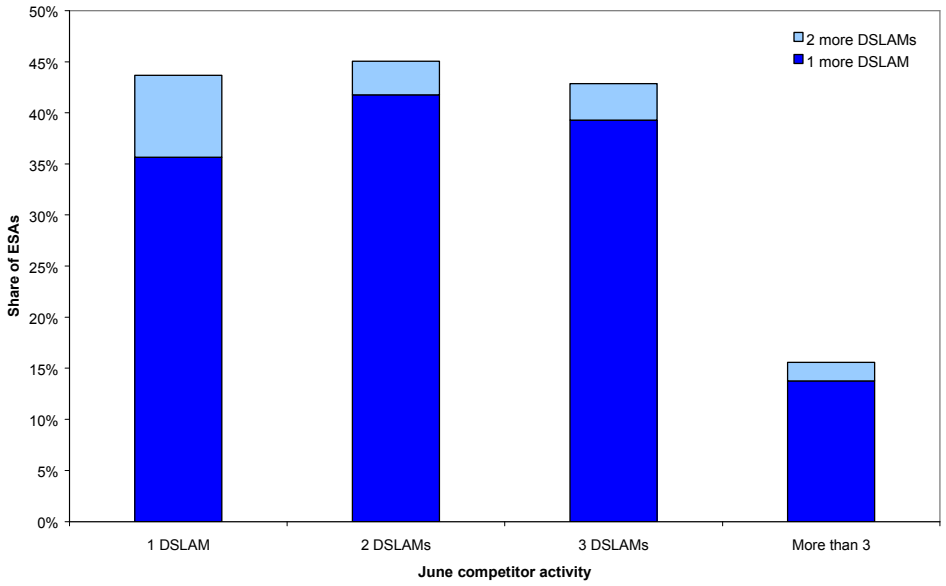
Telstra considers that the presence of at least one DSLAM-based competitor in an ESA represents an appropriate exemption rule.

First, given it is not practicable to gauge the conditions of competition in each ESA individually, the rule represents an appropriate proxy (see Paterson Statement, p. 43). Second, the presence of a single DSLAM indicates that competitive entry into that ESA is viable. Accordingly, Telstra would be constrained in its retail pricing within that ESA (Paterson Statement, p. 44).

Furthermore, a more conservative, two DSLAM rule would be unduly restrictive, since the presence of two ULLS-based competitors indicates little more about the scope for viable ULLS-based entry and operations than does the presence of just one ULLS-based competitor (Paterson Statement, p. 46).

This point is reinforced by an analysis of recent history of DSLAM deployments in the Exemption Areas, which indicates that the presence of one DSLAM is likely to be followed by the entry into that ESA of another DSLAM-based operator (Paterson Statement, p. 8). For example, between June and August 2007, 44% of one-DSLAM ESAs became two- and three-DSLAM ESAs (see Figure 1 below):

Figure 1: Increase in DSLAM-based competitor activity between June and August 2007



Source: [c-i-c]

In addition, Telstra relies on the expert opinion of Dr Paterson, who states:

> "Furthermore, I would expect that the rate of this follow-on deepening of DSLAM deployment for individual ESAs would be even greater if PSTN OA was exempted in the exemption area and Telstra attempted to extract monopoly rents in downstream markets" (Paterson Statement 14 December 2007, p. 9).

2.15 To appropriately gauge competitive conditions in an ESA, does the ACCC need information on the number of ULLS and LSS lines and how this has changed over time?

While the number of ULLS and LSS lines currently used by access seekers provides sufficient evidence that workable competition for the relevant services is currently occurring in the Exemption Area, a more important consideration is the scope for potential entrants to constrain Telstra's pricing (Paterson Statement on WLR/LCS, p. 12). That is, since barriers to entry are low, the actual number of lines currently in use becomes a lesser consideration.

While it is open to the ACCC to review historical data, the relevant telecommunication markets are dynamic and historical data may not reveal emerging trends. For example, the growth in the number of DSLAMs deployed in the Exemption Area has continued to accelerate, such that estimates of current deployment numbers based on historical trends would significantly underestimate the depth of DSLAM-based competition in the Exemption Area.

Nevertheless, Telstra has already provided information in to the Commission which may inform its views at to competitive conditions within any given ESA.

Between June 2005 and May 2007, ULLS SIOs increased very rapidly, from [c-i-c] to [c-i-c] ([c-i-c]). In addition, the Commission may gain insight into the competitive conditions in each ESA by reference to [c-i-c], which provides the number of ULLS SIOs in each ESA. Furthermore, forecast demand for the ULLS is provided at Figure 8 of the Paterson Statement, p. 31. This figure indicates that total SIOs serviced by ULLS-based competitors is likely to rise beyond [c-i-c] by 2011/2012.

2.16 What are the key drivers of DSLAM-based deployment?

DSLAM deployment should be viable wherever expected returns from such investment are positive. Telstra's MES estimates indicate that this is likely to be the case where a competitor to Telstra is able to service up to [c-i-c] ULLS SIOs or up to [c-i-c] LSS SIOs within a given ESA. Furthermore, as Dr Paterson observes at pp. 35-42 of his statement, competitive entrants are able to take steps to ameliorate many of the potential sunk costs associated with DSLAM deployment. Other important drivers are likely to include the strength of customer demand for innovative and emerging services such as VoIP and Naked DSL. As indicated above in response 2.13, VoIP is gaining ground, and several Naked DSL launches have occurred or are likely to occur shortly.

Finally, the scope for continued regulated access to engender regulatory dependence should also be considered as a driver of DSLAM deployment. As Dr Paterson notes, continued declaration appears to have hampered DSLAM deployment, despite low barriers to DSLAM-based entry (Paterson Statement 14 December 2007, p. 21).

2.17 What scale is required in an ESA to justify DSLAM-based deployment?

The MES for ULLS-based entry within the Exemption Area is at most [c-i-c] SIOs, and may be as low as [c-i-c] (see Annexure I, Revised Annexure I; the Lordan Statement also provided relevant estimates relating the capital and installation costs of DSLAMs). Telstra has conducted sensitivity analysis on its MES estimates in light of the views of interested parties in relation to its applications for exemption in respect of the declared LCS and WLR services (although this

should not be taken as a concession that Telstra considers the previous estimate to be unreasonable).[9] The analysis adjusts the original estimates for a shorter DSLAM life and higher TEBA costs. For that reason, references to the MES in this submission incorporate this sensitivity analysis.

Table 1: ULLS minimum viability summary table

	Band 1	Band 2	Band 3	Band 4
Revenues ($A) per SIO	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Costs ($A) per SIO				
[c-i-c] **SIOs**	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
[c-i-c] **SIOs**	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
[c-i-c] **SIOs**	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]

Source: Revised Annexure I

Furthermore in most instances, the incremental cost of an additional voice only customer for a ULLS-based operator is low with respect to incremental revenue (Paterson Statement, p. 38).

The minimum viability table for LSS is shown below.

Table 2: LSS minimum viability summary table

	Band 1	Band 2	Band 3	Band 4
Revenues ($A) per SIO	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
Costs ($A) per SIO				
[c-i-c] **SIOs**	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
[c-i-c] **SIOs**	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
[c-i-c] **SIOs**	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]
[c-i-c] **SIOs**	[c-i-c]	[c-i-c]	[c-i-c]	[c-i-c]

Source: Revised Annexure I

2.18 What is the nature and extent of costs associated with DSLAM-based deployment?

The principal cost categories associated with DSLAM-based deployment are: equipment costs; installation costs; the costs of switching and transmission; access charges; and marketing and

[9] See SingTel Optus Submission to WLR/LCS Exemption Applications, p. 29, Frontier Submission on

billing costs. Further details are provided in Revised Annexure I to Telstra's Submission. While these contain comprehensive estimates of the likely relevant costs, for convenience, the main cost categories are summarized below:

(i) Equipment costs

The relevant equipment costs are $30 per port for data-only equipment (Lordan Statement, p. 9) and $35 per port for voice and data capable equipment (Lordan Statement, p. 9), rising to approximately $60 per port (for a voice and data capable DSLAM) where less than 25 SIOs are serviced (Lordan Statement, p. 9).

These costs are not sunk. Not only may DSLAMs be relocated or resold, but the DSLAM shelf, voice and ADSL cards can be reinstalled in another exchange (Paterson Statement, p. 38). Furthermore, the relatively short effective life of DSLAMs (see Lordan Statement pp. 13-14 and Paterson Statement, p. 36) reinforces the point that DSLAM capital costs are not sunk.

(ii) Installation costs

It costs approximately $2500 to install a 300 port DSLAM, and $9000 to install a 1200 port DSLAM (Lordan Statement, p. 11). It is reasonable to regard the costs of installing DSLAMs as sunk, at least over a relatively short time horizon. However given their short effective life, this would not be true in the longer term.

(iii) Switching and transmission

[c-i-c]

There are also methods available to DSLAM-based operators to mitigate the sunk nature of such costs (Paterson Statement, p. 37). For example, operators providing voice services via ULLS or LSS lines may acquire switched access and transmission from existing network operators (such as SingTel Optus, Primus, AAPT, Soul and Telstra) (Paterson Statement, p. 37).

(iv) ULLS/LSS access charges

[c-i-c]

(v) Marketing and billing costs

WLR/LCS Exemption Applications, pp. 16-17.

[c-i-c]

There are no obvious differences in the extent to which competitive carriers must sink retail costs when they enter using ULLS as compared with PSTN OA, or with a combination of PSTN OA and LSS. In addition, insofar as retailing costs are sunk, they will largely be sunk with respect to an entrant's overall network, rather than sunk with respect to entry at a particular exchange (Paterson Statement, p. 37).

2.19 If an access seeker has a DSLAM in an exchange, does that mean it is technically capable of providing a voice service to end-users? If so, would the upgrade costs to enable the provision of PSTN voice services be significant?

Apart from installing a DSLAM, an access seeker would also need to:

- obtain access to ULLS/LSS (which is simple and cost effective given these services are currently declared);
- obtain interconnection with an existing PSTN network (see [c-i-c]);
- obtain switching and transmission capabilities (see [c-i-c]; Paterson Statement, p. 37 and 40); and
- undertake marketing activities.

As outlined in the preceding response, cost estimates for each of these categories are provided by the Lordan Statement and Revised Annexure I to Telstra's Submission. Craig Lordan considers that the capital cost of adding voice capability to an existing DSLAM would be $35 per voice service (Lordan Statement, p. 10). Furthermore, Dr Paterson concludes that new entrants should be able to minimize the sunk nature of these costs (see Paterson Statement, pp. 36-37, 40).

2.20 What are the technical and cost differences in DSLAMs that can be used to provide voice and those that can only be used to provide xDSL (i.e. ULLS-based DSLAMs vs LSS-based DSLAMs?

There is a great variety of DSLAMs available on the market today, which are capable of providing a variety of residential and business grade voice and data services. As long ago as 2003, as part of the Department of Communications, Information Technology & the Arts, *Broadband Technology Rollout Costing Study*, Clear Advantage and Associates revealed:

> "Highlights of global vendor developments with respect to the DSL technology platforms are:

- first generation Digital Subscriber Loop Access Multiplexers (DSLAM) catered for data services only, whereas next generation DSLAMs support telephony, VOIP and broadcast video;

- support for asymmetric DSL (ADSL), very high-speed DSL (VDSL), high-speed DSL (HDSL), Integrated Services Digital Network (ISDN), SDH, Fast Ethernet (FE), Gigabit Ethernet (GbE) and Plain Old Telephone Service (POTS) services;

- a range of chassis sizes to support a small community of users or a high-density building; and

- a range of port densities (the number of subscribers supported by each card) ranging from one or two (in the case of high-speed interfaces) to 16, 32, 64 or more (in the case of subscriber interfaces)".[10]

Telstra has also provided evidence on the technical differences between DSLAMs in [c-i-c]. In order to provide the Commission with further information on the cost differences among different classes of DSLAMs, notably between those DSLAMs which are voice-service capable and those which are not, Telstra obtained an engineering opinion from Mr Craig Lordan of Evans and Peck ("**Lordan Statement**"). According to the Lordan Statement, the major technical difference between a DSLAM capable of delivering only broadband services and an integrated solution providing both voice and broadband services in the inclusion of functionality to terminate the standard voice service within the same device (Lordan Statement, p. 7).

The Lordan Statement also indicates that the purchase cost of DSLAM equipment depends on factors such as the number of ports, location of the installation, nature of existing backhaul transmission and network equipment and the network operator's architecture (p. 8). Based on Mr Lordan's knowledge, experience and market enquiries, he considered that an appropriate benchmark rate for the purchase of DSL only capable equipment is $30 per port, excluding the cost of installation and support infrastructure (p. 9). This might rise to $60 per port for the purchase of a voice and DSL capable sub-rack partially equipped with line cards (e.g. 50 ports).

The Lordan Statement considered that the equipment cost of acquiring DSLAMs capable of providing voice services would be approximately $70 per customer, due to the need for two separate ports to terminate voice and data services (p. 9).[11]

[10] Clear Advantage and Associates, *Broadband Technology Rollout Costing Study*, p. 18, available at http://www.dcita.gov.au/__data/assets/pdf_file/20439/Broadband_Technology_Rollout_Costing_Study.pdf

[11] As further evidence, one can observe recent statements by internode. On 15 October 2007, Internode unveiled plans to install a further 90 DSLAMs in ESAs at a capital cost of $9 million dollars (see, ZDNet, *Internode exchanges $9m for ADSL2+*, 15 October 2007, available at

Finally, a DSLAM can be used to deliver VoIP services over a ULLS or LSS connection; see [c-i-c].

2.21 What percentage of DSLAMs currently deployed would be capable of providing PSTN voice services?

Telstra does not have data on the precise percentage of deployed DSLAMs that are currently capable of providing PSTN voice services. However, the fact that access seekers are currently providing voice and data services utilising ULLS (for example, SingTel Optus, AAPT/PowerTel and Primus) indicates that many of the DSLAMs currently deployed are capable of providing PSTN-equivalent voice services. Furthermore, there is strong evidence to suggest that ULLS-based entry and supply is rapidly growing in the Exemption Area (Paterson Statement 14 December 2007, p. 11).

In any case, even if a particular deployed DSLAM were incapable of delivering PSTN voice services, the fact that DSLAMs are low cost, have a relatively short economic life and are easily replaceable and redeployable means that an access seeker would not face a significant barrier to the provision of PSTN voice services due to a lack of voice functionality in their current DSLAM assets (see Paterson Statement, p. 36).

Furthermore, in determining whether the Exemptions are in the LTIE, the Commission should consider the capability of carrier grade VoIP services — services that can be provided from any xDSL capable DSLAM (see Paterson Statement 14 December 2007, pp. 4-5).

2.22 Are there any other physical or technical constraints associated with deploying a DSLAM in an exchange?

Telstra considers there are no physical or technical constraints of this nature. In addition to the potential constraints considered by the Paterson Statement (which were found (at p. 37) to be insignificant), interested parties have raised several other potential issues in the context of Telstra's applications of 9 July 2007 for exemption from the standard access obligations in respect of the declared WLR and LCS services. One such issue was whether the existence of RIM systems or pair gains on Telstra's network would prevent access seekers from deploying ULLS on a given line.[12] Another related to issues concerning TEBA access.[13] Telstra does not consider

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http://www.zdnet.com.au/news/communications/soa/Internode-exchanges-9m-for-ADSL2-/0,130061791,339282941,00.htm) This equates to around $100 000 per ESA. When other costs, such as the acquisition of transmission are taken into account, the cost per DSLAM must be substantially less than $100,000 per unit. Internode have stated that they provision their metropolitan DSLAMs for being able to serve over 500 customers each (see, John Lindsay, *Connecting Rural Australia*, presented at the 2007 AFR Broadband Conference, 21 August, p. 5). Taking these factors together, it means that the capex required to serve a new customer is likely to be less than $200. In no way could the Commission consider this cost to be significant.

[12] See, e.g., SingTel Optus submission on WLR/LCS Exemption applications, p. 19.

that these amount to significant barriers to DSLAM-based entry, and is currently preparing comprehensive responses.

3. Potential for competition

*The ACCC seeks comment from interested parties on a number of issues relevant to **potential for competition** and, in particular, information from parties on the nature and extent of planned investment. The ACCC would like interested parties to answer these questions separately for the CBD exemption area and the metropolitan exemption area.*

The ACCC is interested in the current planned infrastructure deployment in the proposed exemption areas.

3.1 Are these planned investments representative of the likely deployment of DSLAMs in the proposed exemption area by the end of 2007? How cautiously should the ACCC regard these planned deployments?

Given the depth and speed of current DSLAM rollout, deployment by the end of 2007 and beyond is likely to have increased significantly. More than 70% of ESAs in the Metropolitan Exemption Area are likely to have at least three competitive DSLAM-based infrastructure offerings available based on current, publicly released deployment plans (Telstra Submission, p. 26). Furthermore, both SingTel Optus and Primus have recently announced significant new DSLAM rollout initiatives (see Telstra submission, p. 26).

One way to gauge likely new developments is by the speed of recent deployment. Since September 2005, the number of ESAs in metropolitan areas with at least one DSLAM-based competitor has more than doubled. Over the same period, the number of competitor DSLAMs in the Metropolitan Exemption Area has more than tripled (see Telstra Submission, p. 27).

In addition, it is instructive to examine deepening in DSLAM deployment. In September 2005, less than 50% of ESAs in the proposed Metropolitan Exemption Area had any competitor DSLAMs installed, with only three per cent having four or more installed. In contrast, by August 2007, more than 50% of ESAs had three or more DSLAMs (Telstra Submission, p. 29).

Finally, for the reasons outlined in p. 21 of Telstra's Submission and discussed at response 1.4 above, Telstra considers that its estimates of future deployment are likely to be conservative.

3.2 Would new DSLAMs all have the capacity to provide voice services, or would some of the

[13] *Ibid.*, pp. 20-22.

DSLAMs only be capable of providing DSL broadband?

Telstra is not convinced of the relevance of this question. First, it appears to place undue weight on static rather than dynamic considerations (Paterson Statement 14 December 2007, p. 10) This seems particularly inappropriate for an industry such as telecommunications, where technological advance is rapid. Second, given that the barriers of moving from LSS-based supply to ULLS-based supply are not material (see Paterson Statement 14 December 2007, p. 11), it does not seem necessary to inquire as to whether currently installed DSLAMs are voice capable.

Notwithstanding these reservations, Telstra is able to provide expert evidence from Mr Craig Lordan as to the current availability of DSLAM technologies. Depending on the planned service delivery model, network owners have the opportunity to purchase DSL only capable equipment or integrated equipment (Lordan Statement, p. 12).

Essentially, it is for access seekers to make efficient investment decisions. In its supply of regulated services, Telstra is permitted to recover only those costs that would be incurred by a hypothetical, efficient carrier. Promotion of the LTIE requires that the same discipline should be applied to access seekers. They should not be permitted to continue to obtain regulated services on an open-ended basis in order to subsidize their own sub-optimal investment decisions.

3.3 Is the size of the addressable market in the CBD exemption area and in the metropolitan exemption area, respectively, large enough to allow access seekers to achieve sufficient economies of scale or density to provide effective competition?

In Band 2, up to [c-i-c] SIOs constitute a sufficiently large addressable market for ULLS-based entry (see Revised Annexure I), and up to [c-i-c] SIOs for LSS-based entry (Revised Annexure I); these estimates are at the high range. To gain an understanding of whether there are sufficiently large addressable markets within each ESA, in the Exemption Area, the Commission should compare these MES estimates with the actual number of SIOs.

Within the Band 2 ESAs in the Exemption Area, none has less than [c-i-c] SIOs (Table A.2 of the Paterson Statement, pp. 69-92). In Band 1, there is on average [c-i-c] SIOs in each ESA (see Table A.1 of the Paterson Statement, pp. 67-68). Furthermore, these areas exhibit greater 'teledensity', that is, the SIOs are located within a smaller geographic area.

Consequently, it is reasonable to assume that there are large enough addressable markets in each Band 1 and 2 ESA to which the Exemption Applications relates.

3.4 Are Telstra's estimates of the minimum efficient scale for DSLAM entry robust? Does an access seeker only need to have an amount less than [c-i-c] SIOs for DSLAM-based entry to be viable?

Telstra considers that Dr Paterson's estimates, and the data upon which they rely, are accurate and reliable. Furthermore, these estimates are likely to be conservative. For example, Telstra assumes a DSLAM opex and capex cost of [c-i-c] per month for [c-i-c] SIOs (see Revised Annexure I). Yet the Lordan Report indicates that for a DSLAM capable of providing both voice and data capabilities, there is likely to be a once-off capital cost of just $120 per SIO (see Lordan Statement, p. 9). When this is amortized using straight line depreciation over an effective life of five years, it indicates a capital cost of just [c-i-c] per month per SIO. Furthermore, the Lordan Report states that there is likely to be a once-off DSLAM installation cost of $2,500 (Lordan Statement, p. 11). When this cost is spread across [c-i-c] SIOs, and across 5 years, it amounts to an additional monthly cost of [c-i-c].

3.5 Are Telstra's assertions that there are no material barriers to entry associated with deploying DSLAM-based infrastructure accurate?

Telstra refers the Commission to its response at 2.5 above.

3.6 Would access seekers using DSLAMs and the ULLS, or providing VoIP services, be able to provide voice services of equivalent quality to Telstra's voice services?

In relation to a service delivered via standard circuit switching technology, a voice service supplied by an access seeker using its ULLS network and standard circuit switching technology is similar to the standard telephone service supplied by Telstra to its customers ([c-i-c]).

Likewise in relation to POTS emulation, the quality of the voice service is equivalent to that provided using standard circuit switching ([c-i-c]).

With respect to a VoIP service, the quality of the call is not necessarily inferior to standard PSTN voice services. Although the call is packet switched, the voice packets can be given priority over others in the event of congestion, rendering the call equivalent to one carried using standard circuit switching technology ([c-i-c]).

3.7 What non-price barriers to entry exist for the use of DSLAMs to provide PSTN services?

There are no material non-price barriers to entry to the use of DSLAMs to provide PSTN OA. In particular, Telstra would be constrained from engaging in anti-competitive conduct by Part XIB

of the Act. Any attempt by Telstra to engage in anticompetitive behaviour would be relatively easy to prosecute, since Telstra's retail and wholesale margins are closely monitored (Paterson Statement on WLR/LCS, p. 14).

Furthermore, Telstra has obligations under its Operational Separation Requirements to ensure that it provides equivalent notice of network upgrades to access seekers as it does to itself (see Paterson Statement, p. 42 and Paterson Statement on WLR/LCS, p. 15). In addition, it would not be profitable for Telstra to degrade the quality of PSTN OA services, since this would be likely to reduce access seeker demand in wholesale markets (Paterson Statement, p. 40). Nor would such behaviour be suited to telecommunications markets.[14]

3.8 What, if any, barriers to entry, expansion and exit exist in relation to DSLAM-based infrastructure?

Possible barriers to entry are discussed at 2.5 above.

Regarding expansion, the Lordan Statement states that DSLAMs generally carry either 300 or 1200 ports (Lordan Statement, p. 15). This suggests that DSLAMs are scalable, since after initial entry (say with [c-i-c] SIOs), a new entrant could expand capacity relatively easily simply by adding more line cards to the DSLAM.

Furthermore, DSLAMs can be resold, and DSLAM voice, shelf and ADSL cards can be reinstalled in another exchange (Paterson Statement, p. 36). This suggests there are few barriers to exit. Finally, the commercial life of DSLAMs is relatively short, given rapidly improving technology in this area (Lordan Statement, p. 13).

4. Dynamic characteristics of markets

4.1 If the ACCC grants the exemption applications, for what period should the ACCC grant the exemptions?

If the Commission issues an Exemption Order in relation to CBD and/or metropolitan areas, that Exemption Order should remain in force until the earlier of:

(a) the Domestic PSTN Originating Access Service ceasing to be an active declared service;

[14] See M. Sappington and D Sappington, "Incentives for sabotage in vertically related industries" (2007),

(b) a finding by a Court of competent jurisdiction that Part XIC of the TPA is invalid as it relates to the Unconditioned Local Loop Service and/or the High Frequency Unconditioned Local Loop Service; and

(c) 31 December 2012.

4.2 Should the exemptions be granted until 2012, as sought by Telstra, or until the current expiry date of the PSTN OA service?

See response 4.1 above.

4.3 If the ACCC grants the exemption applications, should the exemptions take effect immediately, or should it be deferred?

Given the speed of deployment of DSLAM-based infrastructure in the ESAs (see Telstra Submission, particularly at pp. 26-30), Telstra considers that it would not be in the LTIE to delay the date upon which the Exemption Applications become effective. This would simply delay the benefits to be expected from greater facilities-based competition within the ESAs. Accordingly, Telstra submits that the Exemptions should take effect as of the date of the Commission's determination.

Furthermore, granting the Exemption applications for the periods sought by Telstra would provide a clear signal to access seekers that the time has come for them to increase their investment in DSLAM-based infrastructure in order to replicate PSTN OA. This is consistent with the 'ladder of investment' approach advocated by Cave. As Cave notes, in the instance of services which are replicable, withdrawal of mandated access may be appropriate to implement the 'ladder'.[15]

However, should the Commission form the view that a period of deferral is desirable, Telstra considers that it would be appropriate for the Commission to seek specific submissions on the proposed timeframe.

5. Nature and extent of vertical integration

5.1 Are there any other issues relating to vertical integration relevant to the exemption

31(3) *Journal of Regulatory Economics* 235.

[15] See Cave, "Encouraging infrastructure competition via the ladder of investment" (2007) 30 Telecommunications Policy 223, 233.

applications that have not been raised above?

In relation to the Commission's concerns about the impact of Telstra's degree of vertical integration, Telstra considers that there is currently adequate protection in the Australian telecommunications sector from anticompetitive vertical pricing behaviour (Paterson Statement on WLR/LCS, p. 15). That protection emanates from regulatory monitoring of the margins between Telstra's retail and wholesale prices, the legal risks to Telstra of engaging in 'price squeeze' behaviour, and the operational separation aspect of the telecommunications regulatory regime (Paterson Statement on WLR/LCS, pp. 13-15).

The Paterson Statement concludes that the proposed Exemption orders would facilitate efficient facilities-based competition; stimulating innovation and allowing for more robust price competition (see p. 57). Further, to the extent that removing regulation results in competitors moving to ULLS and full facilities based competition, existing competitors would be more deeply vertically integrated, which would be likely to intensify competition in retail markets and result in direct benefits for customers as vertical efficiencies are realised and passed through to consumers (see Paterson Statement, p. 66).

6. Other issues

6.1 What conditions (if any) should be placed on the granting of the exemption applications for the PSTN OA?

Given that it is clearly in the LTIE for the Exemptions to be granted (for the reasons set out above and in Telstra Submission at pp. 55-63), Telstra does not consider it appropriate for any conditions to be placed upon grant of the Exemptions . In Telstra's view, any such conditions would be likely to dilute the benefits to be gained from the proposed Exemptions. However, in the event that the ACCC is minded to grant the Exemptions (or either of them) subject to any conditions, Telstra requests the opportunity to provide detailed submissions on the proposed conditions, either in the context of a draft exemption order or by way of a separate step in the consultation process.

7. Any-to-any connectivity

7.1 Would granting the exemption applications have any effect on any-to-any connectivity?

Telstra disagrees with recent statements by the Commission that continued declaration of PSTN OA is necessary on the grounds of any-to-any connectivity. This reflects the very different nature of the PSTN OA service from PSTN TA. It is unfortunate that they are often inappropriately grouped together as "PSTN OTA" and considered collectively when very different technical, and economic and service considerations apply for each type of service. Although this may be the case for PSTN TA, it is not for OA, since a carrier would, in the absence of declaration, retain the incentive to originate calls on its network, since this would generate revenue (Telstra Submission, p. 61).

In addition, any concerns the Commission may have about any-to-any connectivity in relation to calls made to special services numbers are addressed by the exclusion of those calls from the ambit of its Exemption Applications (Telstra Submission, p. 9).

Accordingly, if remains the case that a customer on any network will still be able to reach a customer on any other network if the Exemption Applications are granted (Telstra Submission, p. 61; see also Paterson Statement, p. 65).

8. Efficient use of and investment in infrastructure

8.1 Would granting the exemption applications have any effect on the efficient use of infrastructure by which listed services are provided?

Granting the Exemption Applications will promote the efficient use of, and investment in, infrastructure (Telstra Submission, p. 62). In particular, Telstra makes the following comments which are relevant to the issues which the Commission must consider pursuant to this limb if the LTIE test:[16]

- technical feasibility of supplying the services: the widespread deployment of DSLAM-based infrastructure, and other alternative access networks, attests to the availability of alternative means of supplying services equivalent to PSTN OA;
- legitimate interests of the access provider: Telstra's legitimate business interests would be enhanced by granting the Exemption Applications; and

- incentives for investment: these would be greatly improved if the Exemptions were granted.

In support of its views, Telstra relies on the expert analysis provided by the Paterson Statement. Dr Paterson concludes:

> "…I show that the presence of access regulation where workable competition exists is likely to discourage efficient infrastructure investment and use and that consequently, its removal will promote efficient investment and use." (Paterson Statement, p. 57).

It is axiomatic that competition is the best regulator.[17] The benefits of infrastructure-based competition over its resale-based equivalent include:

- greater price competition, as entrants have more control over costs and face incentives to develop and deploy more efficient technologies in order to compete with incumbent operators;
- greater service innovation, since entrants are no longer tied to the functionality of the incumbent's network; and
- greater scope for carriers and customers to manage the risks of new technology deployment through risk-sharing arrangements, such as postponed payment schemes (Paterson Statement, p. 56).

Moreover, the negative effects of access regulation are also relevant. These include:

- Inherent truncation of returns;
- Potential for regulatory dependence;
- Arbitrage; and
- Asymmetric impacts (Paterson Statement, pp. 57-59).

A telling example of regulatory dependence is SingTel Optus's disinclination to make use of its own HFC network, which is capable of supplying [c-i-c] metropolitan ESAs with [c-i-c] million SIOs (Paterson Statement, p. 59). In fact, the number of voice SIOs on the SingTel Optus network has declined in recent years to 450,000, despite the fact that SingTel Optus has dramatically increased its cable internet subscribership. Evaluating these developments, Dr Paterson concludes:

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[16] Section 152AB(6).
[17] See Cave, above n. 15.

> "In short, the regulatory environment appears to have, perversely, encouraged Optus to increase its consumption of a product designed to act as a 'stepping-stone' to network investment even where Optus has already made such investments" (Paterson Statement, p. 60).

8.2 What impact would granting the exemptions have on the efficient use of infrastructure in upstream products such as the ULLS?

Currently a wide range of alternative technologies enable the replication of downstream services provided by means of PSTN OA in the Exemption Area. Furthermore, there are no material impediments to retailers commencing to use, or increasing their use of, these close substitutes (Paterson Statement, p. 66).

Accordingly, it is clear that the opportunity already exists for fixed telephony providers to make greater use of alternative access platforms and services to Telstra's PSTN OA within the Exemption Area. Further, should Telstra raise its PSTN OA prices, or refuse to supply these services, retailers would have a clear incentive to substitute away from PSTN OA and make greater use of such alternative infrastructure (Paterson Statement, p. 66).

Accordingly, Telstra considers that granting the Exemption Applications would provide enhanced incentives for Telstra's competitors to invest in DSLAM-based infrastructure within the Exemption Area.

8.4 Would granting the exemptions significantly affect Telstra's incentives to invest in its infrastructure?

The Commission should be concerned about the impact that access regulation is currently having on Telstra's incentive to maintain and invest in its network infrastructure. Dr Paterson states:

> "Telstra has indicated it has been reluctant to commit to rollout of fibre-to-the-node primarily based on concerns about the degree to which regulation is likely to cap returns on that investment" (Paterson Statement 14 December 2007, p. 20).

Furthermore, rising demand has placed a substantial strain on the copper pair network, where in 1999 (the latest data accessed) 50% of the pairs were more than 20 years old and 30% were more than 30 years old (Paterson Statement, p. 62). The combined effect of ageing copper pairs and unacceptably high network utilisation has been growth in the fault rate of the copper pair

network above internationally accepted rates (Paterson Report, p. 63). In short, Telstra has a disincentive to invest in the regulated portion of its network.

8.5 Would granting the exemptions affect Telstra's plans to invest in maintenance, improvement and expansion of its fixed network infrastructure?

In answering this question, it is appropriate to differentiate between three classes of investment:

- enhancements to existing services (such as 'call return' or 'MessageBank');
- investment in Telstra's core network; and
- upgrades to Telstra's customer access network (Paterson Statement 14 December 2007, p. 15).

Regarding the first class, granting the Exemption Applications would encourage ULLS-based access seekers to provide their own unique service enhancements. Telstra in turn would have an incentive to respond with enhancements of its own. Thus, exemption would spur a competitive dynamic, leading to improved facilities-based competition for such services (Paterson Statement 14 December 2007, p. 15).

Dr Paterson also states:

"Exemption is unlikely, in the short term, to have a significant impact on investment in the core network. This is because investment in upgrades to the core network - and in particular migration to an all-IP core - is well progressed and is unlikely to be affected by an exemption order" (Paterson Statement, p. 18).

Regarding access network upgrades, Dr Paterson states:

> "Any regulated pricing of wholesale access products such as PSTN OA must be adjusted upward to reflect investment risk. Any regulated pricing of wholesale access (including PSTN OA pricing) set to reflect non-risk adjusted costs will in effect be below cost and will lead to incomplete cost recovery and hence reduced scope to attract funds for future investment, resulting in less than efficient levels of network investment" (Paterson Statement 14 December 2007, p. 20).

In summary, granting the proposed Exemption Orders would improve Telstra's incentive and ability to invest in telecommunications infrastructure (Paterson Statement 14 December 2007, p. 20).

8.6 How realistic are the costs of regulation identified by Telstra?

Continued regulation of PSTN OA in the Exemption Area is likely to impose two kinds of costs: transaction compliance and administrative costs; and the costs of regulatory error (Telstra Submission, p. 65). Other regulatory costs included the asymmetric impact of regulatory decisions (Telstra Submission, p. 63) and the potential for regulatory dependence (Telstra Submission, pp. 63-64).

In relation to the costs of regulatory error, the High Court in its recent decision on *EAPL v ACCC*,[18] warned of the likely adverse effects that would result from the ACCC failing to adhere to its powers as outlined in the Gas Code:

> "The greater degree of uncertainty and unpredictability in the regulatory process, the greater will be the perceived risk of investment. The greater the perceived risk of investment, the higher will be the returns sought."[19]

In relation to regulatory dependence, recent empirical estimates have been provided by Waverman et al. (2007).[20] These authors used regression analysis to compare three variables: the intensity of access regulation (specifically, access to the unbundled local loop); investment in alternative access platforms; and overall impacts on the consumer uptake of broadband services. The authors sought to determine whether reductions to the regulated price of the LLU would be likely to result in decreased investment in alternative infrastructure. They also examined whether any such costs would be offset by overall increases in broadband penetration (as a result of lower prices to consumers flowing from lower regulated access to LLU).

They concluded that, other things being equal, a ten per cent reduction in the regulated access price of the LLU would result in an 18% reduction in the subscriber share of alternative infrastructure.[21] Furthermore, their analysis suggests that the market-stimulating effect of an LLU price reduction is not sufficient to prevent a decline in the overall number of subscriber lines served over alternative access platforms.[22] Having outlined the impact of regulated access to the LLU on the number of subscribers serviced by alternative infrastructure, the authors then considered how this would be likely to impact on actual investment by broadband providers.

[18] [2007] 81 ALJR 1868.
[19] Ibid. at § 50.
[20] Waverman, Meschi, Reillier and Dasgupta, "Access Regulation and Infrastructure Investment in the Telecommunications Sector: An Empirical Investigation" (2007).
[21] *Ibid.*, p. 3.
[22] *Ibid.*, p. 23.

They found that such impacts were likely to be very strong.[23] For Europe as a whole, the lost long-term investment in alternative access platforms would exceed 10 billion euros as a result of a 10 per cent LLU price reduction.[24]

An earlier study by Crandall *et. al*. reached the similar conclusion that facilities-based investment in telecommunications facilities was slower where access prices were lower.[25]

8.7 Are regulators likely to set access prices too low and are the impacts of doing so asymmetric?

Regulatory structures and the incentives faced by the regulator are more than likely to lead to prices below the efficient level (Telstra Submission, p. 63). While regulatory prices set too high generally do not lead to excessive amounts of investment (given the discretion of the regulated firm to price below the maximum allowable price), regulatory prices set too low do discourage efficient investments (see Paterson Statement, p. 59). Thus, even if prices set by the Commission are able, on average, to achieve a reasonable risk-adjusted return, the errors likely to occur across a series of decisions would exert an asymmetric (and negative) impact on efficient investment (Paterson Statement on WLR/LCS, p. 17).

8.8 Has declaration of the PSTN OA discouraged investment in alternative voice infrastructure by access seekers?

In follows from Telstra responses at 8.1 to 8.7 above that declared access to PSTN OA on an open-ended basis has likely discouraged access seekers from investing in their own networks. Since access seekers can buy PSTN OA at its hypothetical, forward-looking efficient costs, they have a diminished incentive to build for themselves the infrastructure that can deliver it.

From a theoretical perspective, Dr Paterson states:

> "… I show that the presence of access regulation where workable competition exists is likely to discourage efficient infrastructure investment and use and that consequently, its removal will promote efficient investment and use." (Paterson Statement, p. 57).

In practice, this phenomenon has been manifested in regulatory dependence - that is, a preference by Telstra's competitors to rely on regulated access to the PSTN, rather than investing in their own infrastructure (Paterson Statement, p. 59). This is illustrated most starkly

[23] *Ibid*., p. 24.
[24] *Ibid*., p. 4.
[25] Robert W. Crandall, Allan T. Ingraham and Hal J. Singer, "Do Unbundling Policies Discourage CLEC Facilities-Based Investment" (2004) 4(1) *Berkeley Journal of Economic Analysis and Policy* 1, 3.

by SingTel Optus's disinclination to fully use its own HFC capability (see response 8.1 above). More broadly, communications investment by Telstra's competitors has been declining on both real and nominal terms over the past 5 years (Paterson Statement, p. 64).

Accordingly, granting the Exemption Orders is likely to provide Telstra's competitors with the incentive to invest in efficient competing access networks, primarily based on access to the declared ULLS, but also via alternative access networks (Paterson Statement 14 December 2007, p. 18).

8.9 Would granting the Exemption Applications be likely to encourage efficient investment in alternative infrastructure by removing the scope for reliance on the declared PSTN OA?

It is clear that competitive entry has already occurred, and continues to occur. This entry includes, relevantly, the establishment of fibre loops and microwave infrastructure in CBD ESAs, and the establishment of, inter alia, DSLAMs and HFC cable in metropolitan areas (see response 2.3 above).

In addition, MES modelling by Telstra, reviewed by Dr Paterson, indicates that entry is viable for up to [c-i-c] SIOs (see response 2.17 above) Furthermore, Dr Paterson's analysis of potential barriers to entry indicates that none presents a material impediment to DSLAM-based competitive entry (see response 2.5 above).

Since competitors have demonstrated their ability to enter the market by undertaking significant infrastructure investments (notably installing DSLAMs), it is unnecessary to maintain regulated access to PSTN OA, which effectively permits those same competitors to provide long distance, international and fixed-to-mobile calls with no or minimal infrastructure investments. Dr Paterson states in this regard:

> "In my view, the continued regulation of certain wholesale products including PSTN OA in areas where barriers to self-supply (and possibly third party supply) have been demonstrated to be low has had a distorting effect on access seekers' investment incentives." (Paterson Statement 14 December 2007, p. 21).

Furthermore, continued declaration has prevented an efficient level of DSLAM-based investment occurring, despite low barriers to DSLAM-based market entry in the Exemption Area (Paterson Statement 14 December 2007, p. 21).

In addition, continued regulation of PSTN OA is likely to dampen entrant investment in customer access networks including NGNs for the reasons set out above in paragraphs 8.1 to 8.4

above.

This represents inefficient underinvestment in the infrastructure necessary to provide carriage services. Considered in this light, it is likely that exemption will promote efficient investment by entrants in customer access networks - either via DSLAM based entry using ULLS or LSS or use of alternative end to end infrastructure (Paterson Statement 14 December 2007, pp. 20-22).

8.10 What implications would Telstra's exemption applications, and proposed rule for including ESAs in its exemption area, have on investment by access seekers in DSLAM infrastructure? Would an alternative rule be preferable?

DSLAM rollout is gathering momentum throughout the Exemption Area, and is unlikely to be slowed by granting the Exemptions (see response 3.1 above).

In addition, new market offerings such as SingTel Optus's Fusion Product (see Telstra Submission p. 35), and numerous planned 'naked DSL offerings (see Telstra Submission, p. 36)[26] have highlighted the effectiveness of DSLAM rollout in enabling Telstra's competitors to offer innovative new bundled voice and data services to customers in the Exemption Area

Against this backdrop, Telstra considers that granting the Exemptions would, if anything, give access seekers greater incentive to invest in DSLAM infrastructure. If Telstra were to raise the prices of PSTN OA (and it is by no means clear that it would, or could, although some access seekers will no doubt attest that it will), this would only encourage access seekers to switch to using the ULLS instead, by deploying DSLAMs (see Telstra Submission, p. 59).

9. Legitimate commercial interests of the service provider

9.1 Would granting the exemption applications be likely to allow Telstra to recover more than is in its legitimate commercial interests?

The ACCC is proposing a construction of section 152AB(6) that finds little support from the plain meaning of the words of this subsection, or any other part of section 152AB. The ACCC appears to be advocating a "novel" or "idiosyncratic" interpretation of the words of section 152AB(6), of precisely the kind that recently received strong criticism from the High Court in *EAPL v ACCC*.[27] The Court in this case overturned a regulatory decision of the ACCC, on the basis that the ACCC

[26] See also "Web Browsing with No Strings Attached", Sydney Morning Herald, 16 October 2007; "iiNet & Internode prepare Naked DSL Launches", *Communications Day*, 5 November 2007.

had failed to confine itself to the "primary and natural significance" of the words of section 8.10 of the Gas Code, but rather had based its decision on an "idiosyncratic" construction of the words of the section. Likewise in the present instance, the ACCC should not interpret the phrase "legitimate commercial interests of the supplier or suppliers of the services" to connote that the subsection may be relied upon to place an upper bound on the returns earned by the service provider from the service.

The proper construction of this subsection is to ask whether the service provider will be able to earn an appropriate commercial return from providing the service.

Like any commercial entity, Telstra has a legitimate interest in making a reasonable risk-adjusted return on its efficient costs. Telstra will not be able to recover more than this, since any attempts to raise its prices following grant of the Exemption Applications would result in either:

- loss of market share to existing ULLS and/or facilities-based competitors; and/or
- de novo ULLS-based or facilities-based entry (Paterson Statement 14 December 2007, p. 16).

Dr Paterson concludes:

> "In short, Telstra will continue to face competitive constraints in the retail market post exemption and consequently will not be in a position to recover more than its legitimate commercial interests (Paterson Statement 14 December 2007, p. 16).

10. Class exemption

10.1 Should the ACCC make a class exemption in similar terms to Telstra's individual exemption applications?

Telstra has no objection to the Commission making a class exemption in similar terms to Telstra's Exemption applications.

10.2 What would an appropriate class of carrier be?

Telstra does not express a view on this issue.

[27] EAPL v ACCC [2007] 81 ALJR 1868.

10.3 Are there any considerations for granting a class exemption that differ from those for Telstra's individual exemption applications?

Telstra does not express a view on this issue.

10.4 Should the conditions (if any) for a class exemption be different from those for the individual exemptions (if any)?

Telstra favours an unconditional exemption, be it an individual or a class exemption.
Telstra submits that, given it is clearly in the LTIE for the Exemptions to be granted (see Telstra Submission, p. 63), it would not be appropriate to place any conditions upon granting of the Exemptions. The granting of conditional exemption orders would be likely to dilute the benefits to be gained from the proposed Exemptions.

Telstra also requires that it be given the opportunity to make further submissions on any proposed conditions. However, as a general principle, Telstra considers that any conditions should be imposed in a uniform manner.

Telstra Corporation Limited

14 December 2007