

Optus Submission to

Australian Competition and Consumer Commission

in response to

**Draft MTAS Pricing Principles Determination and indicative prices
for the period 1 January 2009 to 31 December 2011
(Public Version)**

December 2008

Table of Contents

1. Executive Summary	4
2. Efficient Costs.....	6
3. TSLRIC Framework.....	8
4. Allocation of Common Costs.....	9
Ramsey-Boiteux pricing	9
Network externality surcharge	11
5. WIK Cost Model	13
Real world constraints taken into account by the ACCC.....	13
Customer acquisition costs	14
Quality of service (geographic coverage)	14
3G network deployment.....	17
6. International Benchmarking.....	22
7. Regulatory Accounting Framework Data.....	26
8. Waterbed Effect	27
The existence of a waterbed effect.....	27
Implications for consumer welfare	30
9. Fixed to Mobile Pass Through	31
Pass through has not occurred.....	31
Impact of further reductions in MTAS	32
Regulatory mechanisms to ensure pass through	33
10. Proposed Price Related Terms and Conditions	34
Indicative price.....	34
Time period.....	38
Appendix A: Constraints Faced by Australian Mobile Operators	40
Cost of achieving scale	40
Location of base station sites	41
Busy hour dimensioning	44
Appendix B: International Benchmarking	46
Annexure B.1	46
Annexure B.2	46
Appendix C: Comparative Analysis South Korea, Israel v Australia	47
Appendix D: New mobile technologies	47
Attachment 1: Engineering Design of the Optus Radio Access Network.....	49
Attachment 2: Locating Mobile Base Stations in Australia	50

Attachment 3: CEG Efficient Operator Benchmark Report 51
Attachment 4: CEG Network Externality Surcharge Report..... 52

1. Executive Summary

- 1.1 In November 2008 the ACCC released a draft Pricing Principles Determination and indicative prices for the Mobile Terminating Access Service (MTAS) for the period 1 January 2009 to 31 December 2011. In the determination the ACCC has identified issues relevant to determining appropriate pricing principles in respect of supplying the MTAS, and proposed an indicative price for the MTAS of 9 cents per minute (cpm) for the period 1 January 2009 to 31 December 2011.
- 1.2 Optus welcomes the opportunity to respond to the draft Pricing Principles Determination. The ACCC has raised a number of important issues, and Optus has taken the opportunity to present its position on each of these. In this paper Optus will express the following views:
- A clear distinction should be made between the fixed line market, in which regulation is required to address the dominance of the natural monopoly fixed line network owner, and the highly competitive mobile services market. Optus notes that the ACCC has acknowledged this point in its draft determination.
 - The cost model which the ACCC has used to inform itself with regard to the MTAS (the WIK model) assumes efficiencies that are not obtainable by real world operators in a network roll out under competitive conditions, as the ACCC has correctly recognised.¹ It has adopted the sensible position that cost estimates produced by models based upon a hypothetical operator cannot be considered conclusive in determining an appropriate indicative price.
 - Some allowance should be made in setting MTAS charges for the costs of the extensive deployment of 3G infrastructure that has been carried out in recent years by mobile network operators (MNOs). Optus has submitted material on its 3G rollout costs in this paper.
 - It is appropriate to benchmark the MTAS rate in Australia against rates in comparable jurisdictions – a sensible position which the ACCC has adopted. Optus has submitted evidence to support such a comparison, which suggests that the Australian MTAS rate is relatively low and that a rate significantly higher than 9cpm would be reasonable.
- 1.3 In response to the proposed 9 cpm indicative price, Optus will submit that the ACCC's proposed halt to the recent downward trajectory of MTAS prices is reasonable. Further downward movement in the MTAS rate cannot be justified, particularly given the lack of any significant reduction in Telstra's average FTM retail price in recent years. Telstra's failure to reduce FTM rates paid by its retail customers suggests that MTAS rate reductions are not in the long term interests of end users. In fact, Telstra has been the

¹ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011, p.13

beneficiary of a windfall dividend of some \$315 million. This must be taken into account in the setting of indicative MTAS prices.

- 1.4 It is appropriate for the ACCC to have taken the view that the cost estimates produced by the WIK model provide a floor price on the cost of supplying the MTAS on a 2G network, and that its application as the primary tool to estimate the efficient costs of supplying the MTAS in the Australian context will be increasingly limited.² In taking this position, the ACCC appears to have recognised that the regulated price of the MTAS must also take into account actual circumstances faced by mobile operators in the Australian context, for example the practical difficulties MNOs typically encounter in locating base stations. Optus will set out further evidence of such real world constraints in this submission (including in Appendix A).
- 1.5 Further, Optus will contend that it would be efficient and equitable to reflect in the MTAS charge the costs associated with a number of additional factors which have not yet been taken into account by the ACCC. These include customer acquisition costs, a network externality surcharge and a contribution to the recovery of the cost of 3G network deployment (and the concurrent operation of the new network with the existing 2G network). Taking these matters into account, Optus considers that a rate as high as 14 cpm would be justifiable. Certainly there is a strong case for a rate above the 9 cpm proposed by the ACCC.
- 1.6 A higher MTAS rate would also benefit end users since the associated certainty of revenue would facilitate Optus' introduction of new innovative plans which pass through value to end users and increase consumer welfare.
- 1.7 Finally, Optus will submit that it would be appropriate for the ACCC to set an indicative MTAS rate for three years, as it has proposed to do, given the increased certainty this would provide to carriers undertaking significant infrastructure investment.

² ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.15

2. Efficient Costs

- 2.1 In its draft determination the ACCC stated an initial view that prices should be based on the forward looking costs of an efficient operator in order to set prices that promote economic efficiency, which is the outcome that could be expected in a competitive market.
- 2.2 The ACCC qualified this view somewhat by making the observation that a new entrant would not be able to bring the new design and technology to bear immediately in a legacy-sized network.³ This observation appears to recognise that a new entrant's costs would necessarily be somewhat higher than the most efficient possible level because of its smaller scale. The ACCC also noted that the Australian Competition Tribunal has taken the view that "an operator in a competitive market should have more of an opportunity to establish the efficiency of its recently incurred costs by reference to its actual costs than a monopolist or dominant operator such as Telstra" in the fixed line context.
- 2.3 Following these observations, the ACCC adopted the position in its draft determination that a TSLRIC approach provides a guide as to the lower bound costs of providing the service, and that costs incurred in a competitive market may be efficient, even if above the cost estimated using a pure TSLRIC approach.⁴
- 2.4 In general Optus concurs with the ACCC's position on efficient costs. The ACCC is correct to adopt the position that costs incurred in a competitive market such as the mobile market may be efficient, even if above TSLRIC+. Optus considers that a clear distinction should be made between the fixed line market, in which regulation is required to address the dominance of the natural monopoly fixed line network owner, and the highly competitive mobile services market, in which there are four significant competing network infrastructure owners. The relatively more intense nature of competition in mobile implies that mobile operators' profits are more likely to be competed away than in the fixed line sector. Accordingly it is appropriate for the process of competition to be allowed to determine outcomes to a greater extent in mobile than would be desirable in the fixed line market. The Tribunal's comment provides support for this view.
- 2.5 However, Optus notes that the indicative MTAS price must also take into account the legitimate business interests of the access provider which may require prices to diverge from efficient costs for a number of reasons, including unforeseen changes in the geographic distribution of demand requiring changes to network configuration and technological changes which result in MNOs operating both a 2G network and a 3G network simultaneously.⁵ Further, the level of costs incurred in a competitive market may incorporate cost categories not typically included in TSLRIC+ estimates, such as customer acquisition costs.

³ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.11

⁴ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.11

⁵ The latter point is discussed further in section 6 of this paper, under the heading 3G network deployment.

- 2.6 Issues such as these tend to increase the incurred costs of mobile operators; however, drawing upon the Tribunal's approach as set out in the passage quoted by the ACCC, the competitiveness of the mobile market provides a strong argument for taking such costs into account in regulated pricing in the mobile context, where competitive forces discipline the level of expenditure. No such argument applies, however, in the fixed line context, where the monopoly character of the market during network construction is likely to have led to 'gold-plating' and other inefficiencies.
- 2.7 Optus would also observe that an economically efficient MTAS charge could exceed the outcome that could be expected in a competitive market as a result of the presence of network externalities.⁶

⁶ Optus considers that an economically efficient MTAS rate should include a Network Externality Surcharge (NES). An appropriate NES is discussed further in section 4 and at Attachment 4.

3. TSLRIC Framework

- 3.1 In its draft determination the ACCC has adopted the position that whilst TSLRIC remains an appropriate framework, estimates of costs in TSLRIC models cannot be considered conclusive in determining an appropriate indicative price. It also observed that the current TSLRIC model applying to the MTAS (the WIK model) assumes efficiencies that may not be obtainable in a roll out under competitive conditions.⁷
- 3.2 Optus agrees with the ACCC's observation regarding the unobtainable efficiencies assumed by the WIK model; Optus has consistently taken a similar view.⁸ Optus considers that the ACCC has adopted a sensible position with regard to the appropriate role of TSLRIC models. It is entirely reasonable for the ACCC to rely on other sources of information (such as international benchmarks) in forming a judgement on an appropriate price for the MTAS.
- 3.3 Optus considers that TSLRIC estimates can provide an initial base from which to determine an appropriate price. A relevant consideration in establishing such a baseline is the fact that a new entrant's costs would necessarily be somewhat higher than the most efficient possible level because of its smaller scale. The ACCC appears to have recognised this point in observing that a new entrant would not be able to bring the new design and technology to bear immediately in a legacy-sized network.⁹ Accordingly, Optus considers that an appropriate initial base could be provided by estimates of the TSLRIC of an operator of new entrant scale. A reasonable proxy for such a scale could be the initial market share of the newest Australian mobile network operator, Hutchison. Optus notes that in its 2007 MTAS Pricing Principles Determination the ACCC provided a TSLRIC estimate based upon a scenario involving a smaller scale operator (with 17% market share) of 7.8 cpm.¹⁰
- 3.4 Moreover, there are further strong reasons why TSLRIC model estimates cannot be considered conclusive in determining an appropriate indicative MTAS price. Optus submits that whilst TSLRIC estimates based upon an operator of new entrant scale can provide a base, a price for the MTAS that is consistent with the long term interests of end users should also take into account a number of other factors, including the actual circumstances that Australian mobile operators face, customer acquisition costs and a network externality surcharge and a contribution to the recovery of the cost of 3G network deployment (and the concurrent operation of the new network with the existing 2G network). These submissions are developed further in later sections of this submission.

⁷ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.12-13

⁸ For example, see Optus, Aug 2007, Submission to ACCC on Draft MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008

⁹ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.11

¹⁰ ACCC, Nov 2007, *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008*, p.1, p.57

4. Allocation of Common Costs

- 4.1 In its draft determination the ACCC commented upon the difficulties of regulators adopting Ramsey-Boiteux pricing and noted that it has considered the Equi-Proportionate Mark Up (EPMU) approach more appropriate for the allocation of common costs. It stated the view that a TSLRIC estimate should include a portion of organisational-level common costs allocated using the EPMU approach, as represented by the TSLRIC+ approach.¹¹
- 4.2 Optus considers that the ACCC should take some account of the acknowledged efficiency of Ramsey-Boiteux pricing for the allocation of common costs, and that it should also consider the applicability of a network externality surcharge in the setting of indicative MTAS prices.

Ramsey-Boiteux pricing

- 4.3 A well-known method for the allocation of common costs is Ramsey-Boiteux (R-B) pricing, which is generally accepted by economists as an efficient principle for the allocation of common costs. Ramsey-Boiteux pricing essentially requires that contributions to fixed and common costs be higher on services that have relatively inelastic demand. The effect of R-B pricing is that the overall level of deadweight losses arising from the need to recover fixed and common costs can be minimised.¹² The ACCC has previously summarised the motivation for Ramsey-Boiteux pricing in the following terms:

“Ramsey pricing concepts ... deal with finding a configuration of prices that would ensure that these common costs are recovered in the least distortionary way. Under a Ramsey configuration, the structure of prices across a collection of services sharing common costs would ensure higher proportionate mark-ups above attributable costs for those services with relatively inelastic demands, according to the inverse elasticity or ‘Ramsey-Boiteux’ rule.”¹³

- 4.4 Optus proposed the allocation of common costs according to R-B pricing principles in the context of its 2004 mobile undertaking, in which it submitted that its modelling:

“... reflects the main intuition of Ramsey Boiteux pricing that welfare can be maximised by recovering fixed and common costs in a manner that minimises distortions to demand. The model goes beyond ‘simple’ Ramsey-Boiteux pricing to capture the complexity of the structure of demand for mobile

¹¹ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.13

¹² In a simple case of independent demands, Ramsey-Boiteux pricing implies that the mark-up on each service to recover the fixed and common costs should be inversely proportional to the relative elasticity of the service. For instance, if one service has an own-price elasticity of -0.3 and another an elasticity of -0.6, then the first service should have a mark-up twice that of the second service. An alternative approach that simply allocated fixed and common costs equi-proportionately to the two services could imply a larger loss in welfare compared with Ramsey-Boiteux pricing.

¹³ ACCC, *Mobile Services Review - Mobile Terminating Access Services*, June 2004, page 145.

*services, including cross-elasticities of demand that take the form of externalities”*¹⁴

- 4.5 However in its final determination on the Optus undertaking, the ACCC rejected the proposed allocation of common costs according to R-B pricing principles, concluding that:
- “... Optus’s proposed R-B framework does not satisfy any of the necessary conditions which are required in order for R-B pricing to necessarily generate a socially-optimal configuration of prices. Further, the Commission considers that Optus’s proposed set of R-B prices fail a basic ‘reality test’. Overall, therefore, the Commission believes the R-B framework proposed by Optus will tend to overstate what would be an appropriate mark-up above FL-LRIC to recover Optus’s FCCs.”*¹⁵
- 4.6 However in its 2008 draft determination, the ACCC has stated a view that prices should be based on the forward looking costs of an efficient operator in order to set prices that promote economic efficiency, which is the outcome that could be expected in a competitive market.¹⁶
- 4.7 Optus would observe that R-B prices promote economic efficiency, represent the forward looking costs of an efficient operator and are consistent with the outcome that could be expected in a competitive market, since in a competitive market the structure of prices is likely to approximate R-B pricing as a result of efficient price discrimination.
- 4.8 Optus recognises that doubts may remain with regard to this issue, and that the ACCC may be minded to take a cautious approach and decline to adopt R-B pricing principles. Nevertheless, Optus submits that that if it declines to adopt R-B pricing, the ACCC should also recognise that it is effectively adopting a lower value for MTAS charges than would be consistent with efficiency and that the true efficient price, allowing for R-B pricing principles, would probably be higher.¹⁷ The implication of a decision to decline to adopt R-B pricing principles must be to lower the risk of setting too high a price. That is, when it is considering other issues in the MTAS context, the ACCC should consider that the downside risk associated with erring on the side of higher MTAS prices is lower. The reason is that even if it errs in such a way the ACCC is unlikely to be setting prices that are higher than an efficient price, given its decision to decline to adopt R-B pricing principles.

¹⁴ Optus, *Optus Submission to Australian Competition and Consumer Commission on Domestic GSM Terminating Access Service Undertaking*, December 2004, page 37. Optus’ 2004-05 model estimated that the ‘welfare-maximising’ price for the MTAS includes a mark-up of CiC to reflect the recovery of ‘fixed and common costs’ based on R-B principles.

¹⁵ ACCC, *Optus Undertaking with respect to the supply of the DGTAS*, Final Decision, Public Version, February 2006, page 27.

¹⁶ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, page 11.

¹⁷ In the past the ACCC has not disputed the well-established theoretical foundations for Ramsey pricing but has instead focussed on practical problems with its implementation.

Network externality surcharge

- 4.9 A general economic result is that cost-orientated termination charges will maximise efficiency, however departures from this standard can be justified by the presence of externalities.
- 4.10 Optus has made submissions on the network externalities issue in the context of its 2004 undertaking, in which it submitted that the inclusion of an externality mark-up in the termination price would not lessen competition, but rather allow mobile subscribers to capture some proportion of the benefits to others associated with their mobile subscription.¹⁸
- 4.11 The ACCC has not so far been convinced that mobile network externalities justify the imposition of a network externality surcharge, and it rejected the surcharge proposed in Optus' undertaking.¹⁹ In its final determination on Optus' undertaking, the ACCC concluded that the network externality surcharge is not a 'cost', but rather relates to the re-structuring of prices in an attempt to account for a relevant externality benefit, and therefore is not relevant to the direct cost of providing the MTAS.²⁰ In its final determination on the mobile services review, the ACCC concluded there was inconclusive evidence on the presence and relevance of a network externality at the margin in the Australian mobile industry, noting that:²¹
- The level of benefit generated for existing mobile subscribers is likely to be low (if not zero), given the high levels of mobile subscriptions that currently exist; and
 - It is highly unlikely that the existing cross-subsidised structure of prices represents an optimal pricing structure on the basis of mobile network externalities.
- 4.12 However in its 2008 draft determination, the ACCC has stated a view that prices should be based on the forward looking costs of an efficient operator in order to set prices that promote economic efficiency, which is the outcome that could be expected in a competitive market.²²
- 4.13 Optus would observe that the inclusion of a network externality surcharge in the MTAS charge would promote economic efficiency, since if mobile subscribers are prevented from capturing the benefits of their subscription, they will not have the efficient incentive to subscribe.²³ Also, there may now

¹⁸ Optus, *Domestic GSM terminating access service undertaking*, December 2004, p.22. The cost model designed by CRA and submitted by Optus in 2004 to support its MTAS undertaking estimated a 'welfare-maximising' price for Optus' MTAS in 2004-05 which included a network externality surcharge (NES) of CiC cpm.

¹⁹ ACCC, *Mobile Services Review: MTAS – Final Decision*, June 2004, pp. 169, 210

²⁰ ACCC, *Optus' undertaking with respect to the supply of its Domestic GSM Terminating Access Service (DGTAS)*, February 2006, p.166

²¹ ACCC, *Mobile Services Review: MTAS – Final Decision*, June 2004, p.172

²² ACCC, *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008 – Report*, November 2007, p.11

²³ Optus, *Domestic GSM terminating access service undertaking*, December 2004, p.24. Optimal pricing might therefore involve each side of the market extracting or internalising the external benefits created by their markets. Hence, the size of the benefit will be reflected in the individual demand for calls to a mobile subscriber.

be scope to reconsider the inclusion of a NES in the MTAS price, given that the structure of prices has changed significantly in the intervening years since 2004; that is, MTAS charges have decreased substantially. Further, new analysis has been carried out by CEG with respect to an appropriate Network Externality Surcharge for the MTAS. CEG's conclusions are set out in the report attached at Attachment 4.

- 4.14 Optus recognises that doubts may remain with regard to this issue, and the ACCC might be minded to take a cautious approach and decline to adopt a network externality surcharge. Nevertheless, Optus submits that that if it takes this position, the ACCC should recognise that the true efficient price, allowing for the network externality, would probably be higher. The implication of a decision to decline to adopt a network externality surcharge must be to lower the risk of setting too high a price. That is, when it is considering other issues the ACCC should consider that the downside risk associated with erring on the side of higher MTAS prices is lower. The reason is that even if it errs in such a way the ACCC is unlikely to be setting prices that are higher than an efficient price, given a decision to decline to adopt a network externality surcharge.

5. WIK Cost Model

- 5.1 As part of developing the 2007 Pricing Principles the Commission engaged Wik Consult GmbH to provide a cost model (the WIK model) with the objective of estimating the efficient costs of supplying the MTAS by a hypothetical MNO.²⁴
- 5.2 The ACCC stated that its current view was that the WIK model effectively provides a floor price on the cost of supplying the MTAS on a 2G network, and that a cost model based on a 2G network remains an appropriate tool to inform decisions, but its application as the primary tool to estimate the efficient costs of supplying the MTAS in the Australian context may become increasingly limited.²⁵
- 5.3 Optus considers that the ACCC has adopted a sensible position with regard to the appropriate role of the WIK model. Nevertheless, Optus considers that there may be a role for WIK model estimates in providing an initial base from which to build up to an appropriate MTAS price.

Real world constraints taken into account by the ACCC

- 5.4 The ACCC stated in its 2007 Pricing Principles determination that “there are certain constraints that MNOs face that may be appropriate to take into account in a policy context”.²⁶ Optus observes that some of these constraints, by implication, are not reflected in the WIK model, as the ACCC appears to have recognised in its comment that the WIK model assumes efficiencies that may not be obtainable in a roll out under competitive conditions.²⁷
- 5.5 In Appendix A to this submission and in an attached report written by economic consultancy CEG (Attachment 3) Optus will present evidence of a number of real world constraints faced by efficient mobile operators in Australia which are “appropriate to take into account in a policy context”, and which are not reflected in the WIK model’s cost estimates, including:
- Cost of achieving scale;
 - Location of base station sites; and
 - Busy hour dimensioning.
- 5.6 Optus submits that the costs associated with these factors represent real world constraints that are faced by efficient mobile operators in Australia and are “appropriate to take into account in a policy context”, yet are not reflected in

²⁴ The ACCC has advised that the WIK model 2008 update yields estimated costs for supplying the MTAS of 6.1 cpm for the 25 per cent market share scenario and 5.8 cpm for the 31 per cent scenario. Using updated data incorporating with uplifts to the weighted average cost of capital (WACC) and minutes of use, the 2008 model yields estimates of 6.2 cpm for the 25 per cent scenario and 5.9 cpm for the 31 per cent scenario.

²⁵ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.15

²⁶ ACCC, MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008, p1

²⁷ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.13

the WIK model's cost estimates. It follows that the 6cpm cost estimates produced by the WIK model underestimate the efficient cost of supply (TSLRIC+) of a real world "constrained" mobile operator in Australia.

- 5.7 The ACCC appears to have taken into account at least some of these factors in setting an indicative price of 9 cpm in its draft determination. Optus submits that consideration of the evidence it has provided on these matters supports the ACCC's stated view that the WIK model effectively provides a floor price on the cost of supplying the MTAS on a 2G network²⁸ and its comment that the WIK model assumes efficiencies that may not be obtainable in a roll out under competitive conditions.²⁹ A price for the MTAS that is consistent with the long term interests of end users must take into account these actual circumstances that mobile operators face in the Australian context. This would result in an indicative MTAS price of at least 9cpm.

Customer acquisition costs

- 5.8 In addition to the real world constraints that are likely to have been taken into account by the ACCC in setting its indicative price of 9 cpm (which are considered above), Optus submits that a further relevant factor should be taken into account: customer acquisition costs. The WIK model's cost estimate does not include any contribution to customer acquisition costs, since, as noted in its January 2007 report, WIK-Consult "regards all customer acquisition, retention and service costs, the so-called CARS as retail costs"³⁰.
- 5.9 According to CEG, however, it "is not economically defensible to argue that customer acquisition costs should be recovered only from origination or subscription charges and not termination charges."³¹ CEG note that "there is a clear causal link between the termination service and customer acquisition costs" and that "the unit cost of providing mobile services (including mobile termination) is lower the higher is expenditure on customer acquisition costs"³². CEG has conservatively estimated the cost of customer acquisition specific to termination to be around 1.7 cents per minute (cpm) based on customer acquisition costs of \$150 per customer.
- 5.10 To take into account customer acquisition costs would result in an additional markup on top of the ACCC's indicative MTAS price of 9cpm.

Quality of service (geographic coverage)

- 5.11 In addition to the real world constraints that are likely to have been taken into account by the ACCC in setting its indicative price of 9 cpm, Optus submits that a further relevant factor could be taken into account: quality of service.
- 5.12 In dealing with the issue of coverage, the ACCC has previously stated that "the aim of the WIK Model is not to precisely replicate the design of any one MNO's actual network but to estimate the efficient cost of providing the

²⁸ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.15

²⁹ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.13

³⁰ WIK-Consult, Mobile Termination Cost Model for Australia, January 2007, p17

³¹ CEG, 2008, Efficient Operator Benchmark, p1

³² CEG, 2008, Efficient Operator Benchmark, p14

MTAS in an Australian context”.³³ This suggests that the hypothetical efficient operator modelled by the WIK model would not necessarily provide the same level of quality of service (represented by particular geographic coverage choices) as that provided by actual MNOs in Australia.

- 5.13 Optus refers the ACCC to the “Efficient Operator Benchmark” report written by economic consultancy CEG and commissioned by Optus, in which CEG draws the following conclusions:
- a reasonable charge for mobile termination (i.e., one that promotes economic efficiency) is one that reflects the outcome of a competitive market;
 - in a competitive market for mobile termination it is likely that operators would be able to charge a premium for higher service quality; and
 - for mobile termination the most important quality dimension is likely to be geographic coverage.³⁴
- 5.14 It follows from these conclusions that an operator who has decided to offer a high quality of service (relative to other MNOs and relative to the WIK hypothetical efficient operator) could in a competitive market command a premium above the price of other MNOs, and above the cost estimate produced by the WIK model, and it would still promote economic efficiency to set mobile termination charges to reflect such a high quality of service. The ACCC’s comment in the Draft Determination that “*cost incurred in a competitive market may be efficient, even if above the costs estimated using a pure TSLRIC approach*”³⁵ may be considered relevant to this issue.
- 5.15 Returning to the results and assumptions of the WIK model it might appear that Optus 2G network provides no better geographic coverage than that of the hypothetical efficient operator modelled by the WIK model, given that both these networks are able to serve 96% of the population. However, this appearance is misleading. To understand why this is so, it is necessary to compare the approach taken to coverage in the WIK model with that taken by real world mobile network engineers.
- 5.16 The approach typically taken by mobile engineers in designing a real world mobile network is thorough, detailed and information-intensive. In this regard Optus refers the ACCC to CiC (Attachment 1), which sets out in detail the manner in which Optus makes decisions about the engineering design of the Optus Radio Access Network. Some of the issues explained in detail in the CiC include the following activities which a MNO must undertake in designing a real world mobile network:

³³ ACCC, *MTAS Pricing Principles Determination, 1 July 2007 to 31 December 2008*, November 2007, page 62.

³⁴ CEG, *Efficient Operator Benchmark*, June 2008, page 12.

³⁵ ACCC, *Draft MTAS Pricing Principles Determination 1 January 2009 to 31 December 2011*, November 2008, page 11.

- monitoring existing and expected future customer demand across the network, including identifying particular locations at which it would like to direct its future marketing activities in order to maintain market share or to respond to the activities of competitors;
- significant strategy decisions to meet a number of radio engineering goals;
- taking into account the type of site that is likely to be available in each required location;
- use of various detailed planning tools in engineering the radio layer of the network;
- the labour intensive process of test drives in a number of locations within the coverage area to determine actual signal strength from various nearby ‘test points’; and
- resolving the inevitable and material difficulties which arise in translating the high level network design into a detailed final design.

5.17 The network design process necessarily entails an MNO having access to a significant volume of highly detailed information on the growth of service demand and knowledge about expected future demand requirements for traffic.³⁶ The network of any real world MNO would provide superior geographic coverage compared to the network of the hypothetical efficient operator modelled by the WIK model would (if it existed). Optus considers that due to the thorough, detailed and information-intensive design process of a real mobile network, significant and legitimate cost is added to the provision of the MTAS that the WIK model does not take into account. The ACCC may have gone some way towards recognition of this point in the draft Pricing Principles decision.³⁷

5.18 To take into account quality of service (geographic coverage) explicitly in MTAS pricing could result in an additional markup on top of the ACCC’s indicative MTAS price of 9cpm.

³⁶ This information is used by the MNO to highlight specific requirements for base station locations. As a result of the difficulties typically encountered in the course of this process, it will often be necessary to establish a greater number of (smaller) sites in affected areas than would otherwise be optimal from a desktop model of radio engineering analysis such as is provided by WIK. In dimensioning the network of the hypothetical efficient operator, the WIK model (of necessity) takes a somewhat simplified approach to coverage and capacity in different locations. For example, the model begins with population data and attempts to model a limited number of real world complexities by making simple adjustments (such as an adjustment to the raw population data to take account of the fact that mobile subscribers, in particular the working population, move between locations and may thus contribute to demand during a typical day in more than one location). This approach will capture some real world complexities in a rudimentary way, but, as with any model, it cannot capture all the constraints faced by MNOs in reality.

³⁷ For example through its reference to the WIK model’s scorched earth approach and the way it “assumes efficiencies that may not be obtainable in a roll out under competitive conditions”. ACCC, *Draft MTAS Pricing Principles Determination 1 January 2009 to 31 December 2011*, November 2008, page 13.

3G network deployment

Concurrent 2G and 3G networks

5.19 The WIK model assumes that a new entrant would supply only 2G services.³⁸ However, the Commission has recognised in its draft Pricing Principles determination that market conditions have changed significantly since the WIK model was first developed in 2007. In particular, the Commission has recognised that “MNOs will concurrently operate 2G and 3G networks for some time”.³⁹ In reaching this conclusion, the Commission considered the following changes in the mobile market to be of particular importance:

- “- the number of 3G subscribers is increasing rapidly
- Telstra has completed the deployment of its extensive 3G network
- Vodafone and Optus have almost completed extensive 3G rollouts; and
- Hutchinson and Telstra have agreed to share 3G infrastructure.”⁴⁰

5.20 Optus submits that MNOs will need to operate 2G and 3G networks concurrently for some time which results in the MNO incurring higher network costs than if it was running a single network.

5.21 It is only relatively recently that Australian MNOs moved to 3G networks. Although the ACCC correctly notes that all Australian MNOs are in the process of constructing 3G networks, this has only occurred in the last 2 to 6 years (depending on the carrier). The table below shows the date on which each mobile service was launched.

Table 1: Network entry into the Australian mobile market

	3G	GSM ⁴¹	CDMA ⁴²
Optus	2005 ⁴³	1993 May	n/a
Telstra	December 2002 ⁴⁴ (business customers)	1993	September 1999

³⁸ Optus has made submissions on this assumption and noted that it would lead to a significant underestimation of the true cost of provision of the MTAS. Optus, *Submission to ACCC on Draft Pricing Principles Determination 1 July 2007 to 31 December 2008*, August 2007, page 15.

³⁹ ACCC, *Draft MTAS Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, November 2008, page 14.

⁴⁰ ACCC, *Draft MTAS Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, November 2008, page 14.

⁴¹ AMTA, *Ten Years of GSM in Australia*, www.amta.gov.au

⁴² AMTA, *Ten Years of GSM in Australia*, www.amta.gov.au

⁴³ Optus (2005), *Optus breaks 3G boundaries*, 14 November 2005, www.optus.com.au

Vodafone	October 2005 ⁴⁵	1993 October	n/a
Hutchison	2003 ⁴⁶	n/a	March 2000 (shut down Aug 2006)

- 5.22 The earliest that a MNO launched a new 3G mobile network in the Australian market was March 2002, with consumers not being able to access a 3G service from all 4 carriers until late-2005. Furthermore, it has only been due to recent network expansions by Optus and Telstra that the coverage of 3G networks reached equivalence with the 2G networks (i.e. coverage of outer metropolitan and regional areas). Optus considers that, at the very least, MNOs will need to operate concurrent 2G and 3G networks until there is equivalence of coverage.
- 5.23 Optus submits that Australian MNOs are also likely to use their 2G network as a ‘backup’ for 3G networks in case capacity constraints or unplanned outages occur. Modern 3G handsets can utilise either the 2G or 3G network for voice or data services. The handsets automatically and seamlessly switch between both networks usually without the consumer being aware of this.⁴⁷
- 5.24 **CiC**
- 5.25 Optus submits that the above information should provide sufficient evidence to the Commission of the need (and desire) of Australian MNOs to operate 2G and 3G networks concurrently in the medium to long-term.
- 5.26 The Commission has previously considered that the relative costs of operating either service would be similar as they would operate in the same spectrum and therefore costs would be unchanged. However, Optus considers that despite the sharing of some spectrum, the deployment of its new 3G network in addition to its existing 2G network has necessarily increased its capital and O&M costs significantly compared to operating only the 2G network. This is particularly the case in the early years of operation whilst the transition from 2G to 3G is still taking place. Further, the 2G to 3G transition requires mobile network operators to upgrade equipment. Such changes are currently resulting in increased costs for mobile network operators, a fact that has been recognised in the financial markets.⁴⁸

⁴⁴ Telstra (2002), Telstra launches Australia’s first 3G wireless service, December 2002, www.telstra.com.au

⁴⁵ Vodafone (2005), Vodafone launches 3G in time for Christmas wish lists, October 2005

⁴⁶ Hutchison (2003), CEO Speech, 14

⁴⁷ Reasons for changing between 2G and 3G bands will depends on a range of technical and operational factors including coverage and network capacity. The degree of notification shown (when in either 2G or 3G mode) depends on the specific handset.

⁴⁸ It has been forecast that as 3G migration accelerates, higher 3G subscriber acquisition costs are expected to negatively impact mobile margins “in 2007 and beyond”. JP Morgan Asia Pacific Equity Research (2007), *Australian Mobile market - CY06 mobile market review*, 05 March 2007.

- 5.27 Given the relative infancy of 3G networks, at the current point in time there is a higher average cost in the concurrent operation of both 2G and 3G networks. This is due a combination of factors including the advanced technology used in 3G networks, the small (although increasing) 3G subscriber base and the fact that carriers must still operate 2G networks.
- 5.28 Optus submits that if the Commission were set an MTAS based purely on the WIK model's "floor price" for 2G services, this would not allow 3G operators to receive an appropriate return on their investment. This inadequacy would not allow operators to recover their costs of providing voice termination over the 3G network and would produce a disincentive to invest further in new 3G (or 4G) technology.
- 5.29 In making a final determination on the MTAS Pricing Principles the Commission should recognise that MNOs will need to operate 2G and 3G operators concurrently for some time and allow for a contribution to the recovery of recently incurred 3G network rollout costs, in addition to the cost of a 2G network alone. Optus submits that the concurrent operation of 2G and 3G networks (which is not captured in the WIK model) supports the inclusion of an additional markup on top of the 9 cpm indicative MTAS price.

Optus' recently deployed 3G network costs

- 5.30 As the ACCC has observed, there has been an extensive roll out of 3G infrastructure by all MNOs in recent years.⁴⁹
- 5.31 Optus submits that to take proper account of MNOs' legitimate business interests, the MTAS charge should allow for a contribution to the recovery of recently incurred 3G network rollout costs.
- 5.32 Optus has recently incurred significant costs in rolling out its 3G mobile network, and will continue to do so for the next three financial years.

CiC

⁴⁹ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.14

CiC

- 5.33 Telstra has also invested significant funds in its 3G network. According to its public statements, Telstra's "investment expenditure on its mobile telecommunication networks amounted to \$1.036 billion for the year ending 30 June 2007 and \$1.043 billion in 2006".⁵⁰ Given that the timing of this expenditure matches the rollout of the 'Next G' network' (i.e. Telstra's 3G network), Optus considers that the majority of this expenditure could be largely attributed to Telstra's 3G network build.
- 5.34 Optus submits that its network rollout costs have been incurred efficiently given the relatively competitive state of the mobile market, which has been

⁵⁰ Telstra, *Telstra Corporation Limited and controlled entities results and operations review – Year ended 30 June 2007*, 9 August 2007, pages 54-55.

recognised by the Australian Competition Tribunal.⁵¹ However, given that WIK model is for a 2G-only operator, the cost estimates produced by the WIK model do not include any allowance for the cost of 3G network deployment.

- 5.35 Optus' 3G mobile network rollout is a response to technological change and corresponding changes in customer preferences. In recent years there has been major and rapid growth in customer demand for services available on 3G mobile networks (and not available on 2G mobile networks). This trend is expected to continue into the future. Accordingly, Optus considers that it is "appropriate in commercial or business terms" for it to be able to recover the costs of that rollout and that it is in Optus' legitimate business interests for MTAS charges to include a contribution to the recovery of its recently (and efficiently) incurred network rollout costs.⁵²

⁵¹ *Application by Optus Mobile Pty Limited & Optus Networks Pty Limited* [2006] ACompT 8, 22 November 2006, at [116-118].

⁵² According to the Australian Competition Tribunal, "a carrier's "legitimate business interest" is a reference to what is regarded as allowable and appropriate in commercial or business terms... it is a reference to the interest of a carrier in recovering the costs of its infrastructure and its operating costs and obtaining a normal return on its capital." *Re Telstra Corporation Limited* [2006] ACompT 4.

6. International Benchmarking

- 6.1 The ACCC has taken the position in its draft determination that international benchmarking analysis will assist in determining MTAS costs, subject to the necessary adjustments to reflect Australian factors.⁵³
- 6.2 The ACCC found that the average MTAS rate in AUD cpm as at 1 Jul 08 for the 'big five' European countries was 14.6 cpm⁵⁴ and that according to the European Regulators Group (ERG) the average MTAS rate for 30 European countries were 15.6cpm.
- 6.3 Optus submits that it is appropriate for the ACCC to benchmark the MTAS rate in Australia against rates in comparable jurisdictions. Such a comparison suggests that the current Australian MTAS rate is relatively low and that a rate of between 14 and 15 cpm would be reasonable.

Comparative analysis EU 15 v Australia

- 6.4 Optus supports the ACCC's use of international benchmarks to determine the appropriate indicative MTAS price. International benchmarking information is a relevant guide to estimate the range of supplying MTAS in Australia.
- 6.5 A summary of international MTAS price benchmarks in the third quarter of 2008 based on benchmarking reports compiled by Ovum is provided at Table B.1 in Appendix B. The 15 comparator countries chosen are all members of the European Union (EU-15).
- 6.6 Turning to the results of the benchmarking exercise, in summary for all countries in the sample from the Ovum benchmarking reports:
- the averaged MTAS charge for EU 15 is 13.83;
 - the range of the average MTAS charges is from 7.69 Australian cents to 17.78 Australian cents;
 - MTAS charges are above 9cpm in all sample countries with the exception of Sweden. This applies to both the averaged AUD MTAS rate for the months of October 2008, July 2008, March 2008 and December 2007 and also the AUD MTAS rate of October 2008 and March 2008; and
 - some countries in the sample, for example Ireland, Greece and Italy, have MTAS rates more than 80% higher than the ACCC's proposed indicative rate of 9cpm.

Information requirements for reliance upon international benchmarks

- 6.7 The Tribunal has provided guidance on how international benchmarking evidence should be taken into account. It stated that:

⁵³ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p16

⁵⁴ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p15

“In order to place any reliance upon the international benchmarking analysis it would be necessary to know much more about the regulatory environment within which they were determined, the state of the relevant markets and the socio-economic environment in which the mobile services were operative.”⁵⁵

- 6.8 Optus has taken the guidance provided by the ACT into account in assembling its international benchmarking evidence. Optus refers the ACCC to Appendix B for a detailed comparison of the comparator countries; however in summary, Optus would make the following observations.
- 6.9 The countries in the sample are all comparable to Australia in terms of the state of the relevant markets, because:
- all sample countries (including Australia) have high mobile penetration with over 90% in 2008;
 - all sample countries (including Australia) have very similar minutes of use per subscriber; and
 - most of the sample countries (including Australia) have a very similar ratio of mobile lines to fixed lines.
- 6.10 The countries in the sample are all comparable to Australia in terms of the socio-economic environment, because in all sample countries (including Australia):
- GDP per capita in 2000 prices is above US\$11,445 in 2008;
 - GDP PPP (Absolute) International Dollars is above \$18,590 (millions) international dollar in 2007;
 - Consumer price indices are in the range of 113 to 129 in 2008;
 - Gini co-efficient is in the range of 0.27 to 0.42 in 2008;
 - Literacy rate is above 98% in 2008; and
 - Unemployment rate is lower than 10% of population in 2008.
- 6.11 The countries in the sample are all comparable to Australia in terms of the regulatory environment because in all sample countries (including Australia):
- the charging system is ‘calling party pays’;
 - mobile termination rates (MTR) are regulated;
 - tariff charges are set based on a cost-orientated price;
 - efficient costs are determined based on a number of sources including top down, bottom up or a hybrid LRIC cost model, benchmarking and/or current cost accounting.

⁵⁵ Application by Optus Mobile Pty Limited & Optus Networks Pty Limited [2006] ACompT 8(22 November 2006) at [297]

6.12 Optus considers that bottom up, top down and hybrid modelling approaches are all capable of being relevant to an estimation of the efficient cost of supply of the MTAS. As noted by the ACCC, the ERG has advocated a more flexible approach in assessing termination rates, noting that there are various methodologies that could be used in deriving an efficient cost (rather than adopting a pure bottom up LRIC approach).⁵⁶ ERG instead recommended that the European Commission use a list of criteria to assess the different approaches to termination rates, including:

- Allocative efficiency;
- Cost recovery;
- Symmetry;
- Competition;
- Consumer benefit;
- Promotion of efficient investment;
- Consistency across member states; and
- Ease of implementation/regulatory burden.⁵⁷

6.13 These criteria are very similar to the objectives listed in the Trade Practices Act, in particular the LTIE, direct costs of providing access and economically efficient operation of service. Thus although there were some differences in the approaches adopted by comparator countries in assessing MTRs, Optus considers that, overall, the approach adopted to assessment of regulated MTRs is comparable to the ACCC's approach in Australia.

6.14 Further, Optus submits that the averaged MTAS rate of the countries in the sample should be regarded as a conservative benchmark for setting the Australian MTAS rate, particularly once population density is taken into account. It is important to note that the population density in each of the comparator countries is significantly higher than in Australia, as illustrated in Table A.2. Population density is a crucial determinant of mobile termination cost as higher population density allows better utilisation of the capacity of the network and higher minutes of use per subscriber. This suggests that the MTAS rate for Australia should in fact be higher than the sample countries' MTAS rates.

Comparative analysis South Korea & Israel v Australia

6.15 In the past, South Korea & Israel have been suggested as potential comparator countries for the purposes of benchmarking the MTAS rate.⁵⁸ Optus submits that neither South Korea nor Israel is sufficiently similar or comparable with Australia to be appropriately used as comparator countries in a benchmarking exercise.

⁵⁶ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p16

⁵⁷ ERG response to public consultation on termination rates, September 2008

⁵⁸ ACCC, MTAS Pricing Principles November 2007, 58

- 6.16 Optus refers the ACCC to Appendix C for a detailed comparison of South Korea and Israel with Australia. However in summary:
- the socioeconomic environment in South Korea and in Israel is different to Australia since GDP per capita in both countries is lower than in Australia;
 - the population density of both countries is significantly higher than in Australia;
 - the state of the relevant markets in South Korea and in Israel is different to Australia, because minutes of use per subscriber in both countries are very high compared to in Australia.
- 6.17 For all these reasons it is reasonable to expect efficient network costs in both Israel and South Korea to be significantly lower than in Australia. It follows that the MTRs in South Korea and Israel are not relevant benchmarks for the MTAS in Australia.
- 6.18 Optus refers the ACCC to Appendix C for a detailed comparison of these countries with Australia.

7. Regulatory Accounting Framework Data

- 7.1 In its draft 2008 Pricing Principles the ACCC noted that it has proposed changes to the regulatory accounting framework record-keeping rules to require separate reporting of the declared MTAS service, as well as separate reporting of 2G and 3G activities. The ACCC also noted that if implemented “these changes should be incorporated into RAF reports from the mid 2009 reporting period.”⁵⁹
- 7.2 Optus wishes to raise a number of caveats concerning the ACCC’s statements regarding the RAF data.
- 7.3 First, it is not clear that it would be appropriate for the ACCC to implement its proposed changes to the RAF RKR. In the context of the separate consultation on the proposed changes Optus and other carriers have raised concerns around the ACCC’s proposal for separate reporting for the declared MTAS and also the proposal for separate reporting of 2G and 3G services. The proposal for separate reporting of 2G and 3G services is unlikely to be feasible for a number of reasons and appears likely to cause very substantial compliance costs. As Optus has submitted to the ACCC, the proposed changes would impose a substantial financial burden upon Optus.
- 7.4 Second, Optus considers that greater clarity is required around the relationship between the RAF RKR and the MTAS pricing principles, and has submitted that the ACCC should provide further details of the process it intends to follow. Further consultation is required to agree on the scope of the data to be reported, ensure consistency and to ensure that information on the declared MTAS obtained from the RAF will assist the ACCC in its regulatory proceedings. Otherwise the information requested could be of limited value.
- 7.5 Finally, even if the proposed changes were implemented, it will be important to allow adequate time for preparatory activities to be carried out to ensure that carriers’ reporting will be robust and accurate. These preparatory activities include for example: investigations into feasibility, clarification of the scope of the required changes and acceptability of the methods used and data produced, and scoping and implementation of required changes to systems. Optus estimates that at least 12 months lead time will be required before it would be able to begin complying with the proposed new rules and as a result it will not be possible for Optus to report on the new metrics for the 2009-10 financial year (consistent with Optus’ submission to the ACCC in the RKR consultation).

⁵⁹ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.17

8. Waterbed Effect

- 8.1 The waterbed effect refers to the inter-relationship between regulated termination charges and other sources of revenue, particularly the retail prices of subscription and outgoing calls. The term is often used to describe a scenario in which a regulated reduction in termination charges exerts upward pressure upon the retail prices of subscription and outgoing calls, resulting in either an increase in these retail prices or in a slower rate of reduction of such prices than would otherwise have been experienced.
- 8.2 The ACCC in its 2007 Pricing Principles Determination considered that a waterbed effect was not apparent in an Australian context due to lower average retail prices for off-net calls and an increase in the level of handset subsidies.⁶⁰ In its draft 2008 Pricing Principles the ACCC observed in the waterbed context that “competition at the retail level remains strong with an increase in the availability of capped and uncapped plans and the emergence of bundled pricing packages (particularly with data services) evidence of continued competition at the retail level.”⁶¹
- 8.3 Optus maintains that a significant waterbed effect is likely to exist within the mobile market in Australia, which should be taken into account in the setting of MTAS prices, and that the existence of a waterbed effect supports a rate higher than 9cpm. The following discussion will establish the existence of the waterbed effect, as well as a highlight a number of implications of the waterbed effect in the Australian mobile market.
- 8.4 Optus considers an increase in the MTAS rate would be in the long term interests of end users, since it would provide operators with certainty of revenue and facilitate the introduction of new innovative plans and bundling arrangements which pass through value to end users.

The existence of a waterbed effect

- 8.5 The waterbed effect has long been hypothesised as a typical feature of two-sided markets, especially within mobile telephony where there is a strong interrelationship between the market for subscription and outgoing calls, and the market for termination of incoming calls. In a study of fixed-to-mobile (FTM) substitution, Albon (2006) considers that “the waterbed effect begins from the point where a mobile carrier has reduced its subscription price in the quest for greater profits.”⁶² In a study of the waterbed effect and regulation, Schiff (2008) considers the existence of the waterbed effect will occur “if

⁶⁰ ACCC, *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008 – Report*, November 2007, p.16

⁶¹ ACCC, Nov 2008, *Draft MTAS Pricing Principles Determination*, p.18

⁶² Albon, 2006, “Fixed-to-mobile substitution, complementarity and convergence,” *Agenda 13 (4)*, p.316. Therefore, were the price of termination not regulated, then under the general conditions of competition, a profit-maximising mobile carrier will reduce retail mobile prices below cost only if the reduction increase profits overall. As a result, the waterbed effect can be considered to be a natural outcome of profit-maximising behaviour by firms.

either the marginal revenue or marginal cost of one good depends on the quantity of the other good(s).⁶³

- 8.6 Frontier (2008) has noted that “the existence of a waterbed effect... simply reflects that, given the competition in the retail market, a change in the termination rate does not affect solely the price of traffic services, it also influences the equilibrium prices of other related services such as fixed subscription charges.”⁶⁴

Empirical validation

- 8.7 During recent years, academic studies have confirmed the existence of a waterbed effect operating in mobile markets around the world. In particular, there has been evidence to indicate that the effect presents substantial implications for competition and consumer welfare in mobile telephony.
- 8.8 This waterbed effect, as predicted by economic theory, has been acknowledged by Ofcom and other regulators. Recently it has also been confirmed empirically by Genakos and Valletti (2008). They found that for a set of 24 countries, all European with the exception of New Zealand, Australia, Japan and Turkey, that this effect exists and is strong, although is not full.⁶⁵ Therefore, policy makers should not assume that the lower mobile termination rate the better for consumers, in particular when the mobile termination level is set below costs.
- 8.9 Importantly, Genakos and Valletti (2008) emphasise that “the waterbed effect is stronger the more intense the competition is in markets with high levels of market penetration and high termination rates.”⁶⁶ This result has implications for Australia since, consistent with Optus’ earlier submissions, there is effective competition in the Australian retail mobile services market.⁶⁷ The state of competition in the Australian market is examined below.
- 8.10 Welfare implications will arise and depending on the extent of changes in termination rates, the reduction in consumer welfare of reducing mobile termination rates can be substantial. Frontier (2008) has quantified the impact of drastically reducing mobile termination rates based on a simulated model of competition between mobile operators commonly used in economic literature.⁶⁸ Schiff (2008) further notes the erroneous nature of welfare analyses without consideration of waterbed linkages.⁶⁹

⁶³ Schiff, 2008, The ‘waterbed’ effect and price regulation, *Review of Network Economics* 7(3), p.412. A waterbed effect may also exist with nonlinear pricing or if competing firms are subject to a zero-profit constraint or global price cap and there is a common fixed cost.”

⁶⁴ Frontier, *Assessing the impact of lowering mobile termination rates*, July 2008, p.13

⁶⁵ In particular they find that a 10 per cent reduction in mobile termination rate leads to a 10 per cent increase in mobile retail prices.

⁶⁶ Genakos and Valletti, 2008, “Testing the waterbed effect in mobile telephony,” *CEIS Tor Vergata Research Paper Series* 6(2), p.2-3

⁶⁷ ACCC, *Optus’ undertaking with respect to the supply of its domestic GSM terminating access service (DGTAS) – Final Decision*, Appendix 5, February 2006, p.219

⁶⁸ Frontier, *Assessing the impact of lowering mobile termination rates*, July 2008, p. 19. This confirms Genakos and Valletti (2008) findings, with the impacts of overall average prices paid, mobile market penetration, and total consumer welfare from mobile telephony measured against current European data. Frontier’s model assumes that operators compete for market share by offering prices which maximise the value that consumers obtain from using mobile telephony, therefore the results reported

Recognition by regulators

- 8.11 Recognition of the waterbed effect varies across different regulatory jurisdictions. However as recognition of the waterbed effect phenomenon takes hold, regulators are increasingly taking notice and are now beginning to take the potential implications of the waterbed effect into consideration when determining new policy directions.
- 8.12 Ofcom has recognised the existence of the waterbed effect, although considers that the extent of the waterbed effect may not be complete. As such, it remains of the view that competition in the market may not be sufficient to drive out all of the excess profit.⁷⁰
- 8.13 The New Zealand Commerce Commission also recently acknowledged the possible existence of a waterbed effect to the extent that where it exists, it is likely that mobile prices will decline under regulation but at a slower rate than without. Therefore, although the waterbed effect is traditionally described in terms of mobile subscription prices increasing (while the number of mobile subscribers decreases), the Commission has recognised that the waterbed effect may in fact appear in alternate guises.⁷¹

State of competition in the Australian market

- 8.14 Optus submits that the Australian mobile market is highly competitive. Key features of the state of competition in the market are highlighted below:
- i) There are four mobile carriers operating six mobile networks in Australia.⁷²
 - ii) Market growth is strong with uptake of new technologies, such as 3G networks. Since 2005, total mobile subscriptions in Australia have increased, of which the number of 3G subscriptions has increased by approximately 780.7 per cent.⁷³
 - iii) Price competition is fierce, as operators continually launch new innovative capped, uncapped and bundled plans which pass on benefits to consumers. For example the introduction of Optus' Fusion and Timeless plans, discussed below.

do not depend on competition between operators being weak. In general, it was found that the reduction in mobile termination rates will increase the minutes of usage while impacting on consumer welfare by reducing it as a result of two effects: (i) under a calling party pays regime (the waterbed effect), there will be an increase in subscription charge; and (ii) under a receiving party pays regime, the charges for incoming calls will increase as mobile termination rates are reduced, thereby lowering the value of mobile telephony for customers and hence reducing mobile penetration rates.

⁶⁹ Schiff, 2008, "The 'waterbed' effect and price regulation," *Review of Network Economics* 7(3), p.403. "Depending on the rate at which reductions in the regulated price are passed through into increases in other prices and depending on the shape of the demand and cost curves in these markets, such welfare losses may represent a very large fraction of, or even exceed, any benefits in the market that is regulated."

⁷⁰ Ofcom, *Wholesale mobile call termination - Statement*, June 2004, p.27

⁷¹ New Zealand Commerce Commission, *Investigation into regulation of mobile termination – Reconsideration final report*, April 2006, p.20

⁷² ACMA, *Communications Report 2007-08*, November 2008, p.22

⁷³ JP Morgan, *Australian mobile market 2007*, 17 March 2008, p.9

- iv) Mobile prices are decreasing. Overall, the average prices for mobile services have decreased by approximately 42 per cent since 1997-98.⁷⁴
- v) Profitability is not high. Over the past two calendar years, Optus has significantly lost mobile revenue market share – decreasing by 2.9 per cent over the last two years.⁷⁵

Implications for consumer welfare

- 8.15 The ACCC has considered that a waterbed effect does not exist in the Australian mobile market on the basis that following the previous reduction in mobile termination rates, there has been lower average retail prices for off-net calls and an increase in the level of handset subsidies.⁷⁶
- 8.16 Optus submits that a waterbed effect can exist despite the presence of lower average retail prices and increase in the level of handset subsidies. For example, the New Zealand Commerce Commission recognised under the waterbed effect, mobile prices may decline under regulation but at a slower rate than without regulation of mobile termination rates.
- 8.17 It has been recognised that there has been an increase in the availability of capped and uncapped plans, as well as the emergence of bundled pricing packages,⁷⁷ for example by July 2008 Optus had launched its ‘Timeless’ product range offering customers unlimited standard local and national calls, and calls and standard SMS to GSM mobiles within Australia.⁷⁸
- 8.18 Optus submits that capped and/or bundled pricing packages such as this are significant innovations offered by operators to attract new subscribers and pass on value to customers. The availability of these packages remains reliant on the overall revenue operators are able to earn in the mobile market and the economic viability and offerings of such plans will be heavily influenced by regulatory settings with regard to mobile termination charges.
- 8.19 Optus is currently assessing the economic viability of introducing new innovative ways to benefit consumers, including new types of mobile plan. These innovations – if introduced – will provide benefits to customers through increased welfare, however, profit margins remain considerably tight and from an operator’s perspective the viability of such innovations diminishes as termination rates decrease. Optus considers an increase in the MTAS rate would be in the long term interests of end users, since it would provide operators with certainty of revenue and facilitates the introduction of new innovative plans and bundling arrangements which pass through value to end users.

⁷⁴ ACCC, *Telecommunications Report 2006-07*, May 2008, p.95

⁷⁵ JP Morgan, *Australian mobile market 2007*, 17 March 2008, p.5

⁷⁶ ACCC, *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008 – Report*, November 2007, p.16

⁷⁷ ACCC, *Draft MTAS Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, November 2008, p.18

⁷⁸ Optus, “Optus ‘stops time’ with unlimited calls and sms mobile plan,” Media Release, 21 July 2008

9. Fixed to Mobile Pass Through

- 9.1 In its Draft Determination the Commission noted that there had been a lack of 'pass-through' in the fixed-to-mobile (FTM) market.
- 9.2 Optus agrees that Telstra has not significantly reduced its average FTM retail price in recent years, despite the regulated MTAS rate decreasing substantially. Telstra's failure to reduce FTM rates paid by its retail customers calls into question the rationale for past rate cuts and suggests that MTAS rate reductions are not in the long term interests of end users.

Pass through has not occurred

- 9.3 Telstra's market power in the highly concentrated fixed line market allows it a substantial degree of control over its retail FTM price. Telstra has used its market power to avoid passing through recent reductions in MTAS prices into lower FTM prices.
- 9.4 Optus has consistently provided data to the Commission demonstrating that pass through has not occurred and now submits further updated analysis for consideration in this review.
- 9.5 The regulated MTAS price has decreased by 12 cents from 2004 to 2008, falling from a high of 21cpm in 2004 to 9cpm in 2008. Optus has undertaken analysis to determine whether pass-through has occurred, and at what level.
- 9.6 Optus considers that the reduction in the MTAS has allowed Telstra to receive a significant windfall gain. Instead of passing on the reduction to consumers by lowering FTM prices, Telstra has kept most of the benefit. Over the 2004 to 2008 period of MTAS regulation Telstra has saved \$569.2 million.⁷⁹ This was determined by multiplying Telstra's publicly reported FTM minutes in each year by the reduction in the MTAS.⁸⁰ Over that same period Telstra's FTM rate decreased by approximately 5.4 cents.⁸¹ Optus therefore submits that Telstra only passed-through 5.4 cents (45% of the reduction in MTAS rate) and kept for itself 6.6 cents (55%). Over the period 2004 to 2008 this represents an overall windfall gain to Telstra of a staggering \$314.9 million.⁸² By contrast, CiC
- 9.7 The graph below illustrates the above discussion and highlights the divergent price paths of Telstra's FTM rate relative to the regulated MTAS rate, and the rate that would have been set if full pass-through had occurred (as shown by

⁷⁹ In terms of \$2008 (i.e. adjusted for changes in CPI over that period).

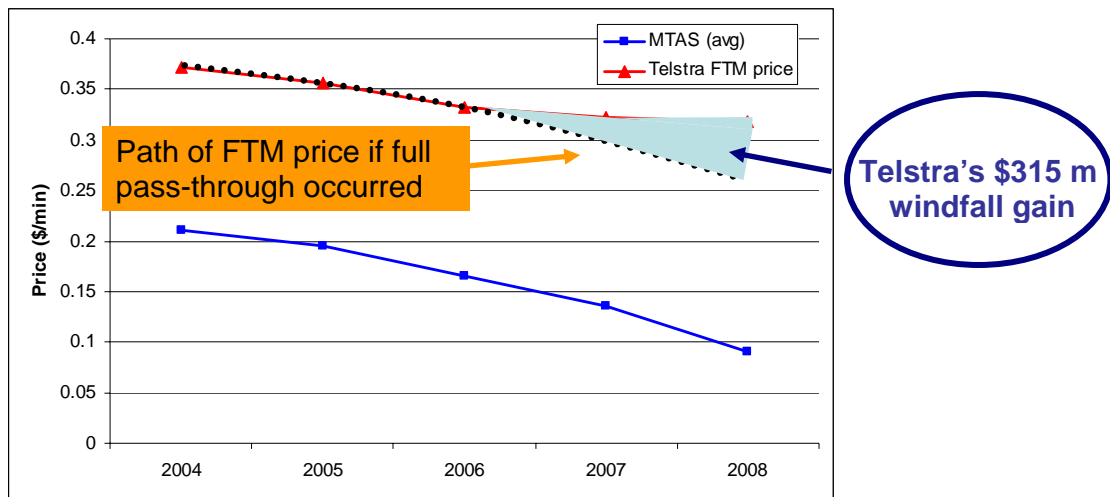
⁸⁰ FTM minute data reported in Telstra's Annual Reports (2004 to 2008).

⁸¹ Telstra's FTM rate derived by dividing total reported FTM revenue by the total FTM minutes in that period.

⁸² In terms of \$2008 (i.e. adjusted for changes in CPI over that period).

the dotted line). Telstra applies a retail mark-up on top of the MTAS rate, with Telstra's mark-up shown in the graph by the distance between the MTAS and the FTM curves. In sharp contrast to Telstra's conduct, CiC. Telstra, on the other hand, has not passed through reductions in MTAS as revealed by the divergence of Telstra's FTM price curve away from the MTAS curve.

Graph of movements in Telstra FTM price relative to the headline MTAS rate



Impact of further reductions in MTAS

- 9.8 Optus submits that, based on the evidence discussed above, a further reduction in the MTAS price will not be passed through by Telstra to end users.
- 9.9 Telstra is the dominant carrier in the fixed line market⁸³ and non-Telstra players tend to be price takers. It follows that a reductions in the MTAS price do not result in lower retail prices for consumers. Consequently, a further reduction in the MTAS price would not, to any significant extent, promote competition or produce benefits from the process of competition for end users.
- 9.10 In fact, the main result of any further reduction in the MTAS price would be a windfall increase in Telstra's already above normal profits. This in itself is not in the interests of end users, since it could ease the pressure on Telstra to find lower-cost and more efficient ways to provide FTM calls. The increase in Telstra's above normal FTM profits could also provide Telstra with a 'war chest' to assist in additional marketing activity and tilt the playing field in the mobile market against other equally (or more) efficient operators who do not have access to such rents. Whilst this might benefit Telstra's shareholders, it has undermined competition and has clearly not benefited end-users.

⁸³ According to the ACCC's most recent market indicator data, Telstra holds 75.5 per cent market share by revenue whilst Optus holds 14.5 per cent and others share the remaining 10 per cent. ACCC, *Telecommunications market indicator report 2005-06*, August 2007, page 5.

Regulatory mechanisms to ensure pass through

- 9.11 The ACCC has noted that additional regulatory mechanisms such as price control sub caps may be necessary to ensure a greater pass through of reductions in MTAS prices to FTM retail prices.⁸⁴
- 9.12 Optus submits that any additional mechanism such as that contemplated by the ACCC should take into account the degree of pass-through that has already occurred to date, and the extent to which the degree of pass through has differed between different operators. As noted above, since 2004 Telstra has failed to pass through more than 45% of the reduction in MTAS rate to its retail customers; whereas Optus has passed through a significantly greater proportion, **CiC**, to its customers. Any measure which failed to recognise the substantial pass through already achieved by Optus and the substantial windfall pocketed by Telstra to date would be manifestly inequitable and inconsistent with the legislative criteria set out in the Trade Practices Act.
- 9.13 For example, any proposal which required all future rate reductions to be passed through in full, but left existing FTM rates unchanged, would in effect crystallise current FTM rates. This would reward Telstra for its failure to pass through in the past – and punish Optus for passing on benefits to consumers in the past. Such a proposal would not promote competition (since it would be discriminating against carriers that have already passed on rate cuts) and would not be consistent with the legitimate business interests of MNOs.
- 9.14 A more equitable approach would be one which sought to influence not only the proportion of pass-through which occurs in future, but also addressed the different proportions that operators have passed through in the past.

⁸⁴ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.19

10. Proposed Price Related Terms and Conditions

Indicative price

- 10.1 The ACCC has proposed an indicative price for the MTAS of 9 cents per minute (cpm) for the period 1 January 2009 to 31 December 2011.
- 10.2 Optus submits that the ACCC's proposed halt to the recent downward trajectory of MTAS prices is reasonable. Further downward movement in the MTAS rate cannot be justified, given the lack of any significant reduction in Telstra's average FTM residential retail price in recent years. It appears that the ACCC's proposed 9 cpm indicative price takes into account at least some of the actual circumstances faced by mobile operators in the Australian context, for example the practical difficulties MNOs typically encounter in locating base stations.
- 10.3 Further, Optus submits that there is a strong case for an MTAS rate higher than 9 cpm. The certainty of revenue associated with a higher MTAS rate would facilitate Optus' introduction of new innovative plans and bundling arrangements which pass through value to end users and increase consumer welfare. Moreover, it would be efficient and equitable to reflect in the MTAS charge the costs associated with a number of additional factors which have not yet been taken into account by the ACCC, including customer acquisition costs, a network externality surcharge and a contribution to the recovery of the cost of 3G network deployment (and the concurrent operation of the new network with the existing 2G network).
- 10.4 Taking these matters into account, Optus submits that an indicative MTAS rate as high as 14 cpm would be justifiable. The derivation of this value is set out below.

TSLRIC base

- 10.5 Optus considers that a TSLRIC estimate may be appropriate to establish a baseline price, consistent with the ACCC's view that the WIK model effectively provides a floor price on the cost of supplying the MTAS on a 2G network.⁸⁵ The WIK model's cost estimate for the 25 per cent market share scenario is 6.1 cpm.⁸⁶
- 10.6 However, a price floor would need to take account of the constraint that, as recognised by the ACCC, a new entrant would not be able to bring the new design and technology to bear immediately in a legacy-sized network.⁸⁷ Accordingly, Optus considers that a reasonable baseline TSLRIC-based cost estimate would need to be based upon a scenario involving a smaller operator. The ACCC in its 2007 pricing principles determination stated that

⁸⁵ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.15

⁸⁶ The ACCC has advised that the WIK model 2008 update (excluding uplifts) yields estimated costs for supplying the MTAS of 6.1 cpm for the 25 per cent market share scenario.

⁸⁷ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.11

the WIK model's cost estimate for the 17% market share scenario was 7.8 cpm.⁸⁸

Real world factors

- 10.7 The ACCC has recognised that constraints faced by real world operators under competitive conditions need to be taken into account in pricing of the MTAS.⁸⁹ In this paper Optus has provided evidence of a number of such real world factors including difficulties in locating base station sites and busy hour dimensioning (which are discussed in Appendix A). It appears that the ACCC has taken into account at least some of these factors in its draft determination, given its view that the WIK model provides only a floor price on the cost of supplying the MTAS,⁹⁰ and its decision to set an indicative price of 9 cpm. Optus infers that the ACCC's proposed indicative price of 9 cpm takes into account both the TSLRIC base and 'real world factors' such as difficulties in locating base station sites and busy hour dimensioning.

Customer acquisition costs and quality of service

- 10.8 As noted in the report at Attachment 3, CEG considers that there is a clear causal link between the termination service and customer acquisition costs. CEG has conservatively estimated the cost of customer acquisition specific to termination to be around 1.7 cents per minute (cpm).
- 10.9 Optus proposes, conservatively, that the MTAS charge include a 1.2 cpm markup for customer acquisition costs attributable to mobile termination.
- 10.10 CEG also noted that a competitive market for mobile termination it is likely that operators would be able to charge a premium for higher service quality (or coverage). However, to be conservative, Optus does not propose to include a premium for higher service quality in the indicative MTAS charge.

Network externality surcharge and Ramsey-Boiteux pricing

- 10.11 Optus considers that the ACCC should take some account of the acknowledged efficiency of Ramsey-Boiteux pricing for the allocation of common costs, and that it should also consider the applicability of a network externality surcharge in the setting of indicative MTAS prices.
- 10.12 The cost model designed by CRA and submitted by Optus in 2004 to support its MTAS undertaking estimated a 'welfare-maximising' price for Optus' MTAS in 2004-05 which included a mark-up to reflect the recovery of 'fixed and common costs' (FCCs) based on Ramsey-Boiteux (R-B) principles of **CiC** cpm. The same cost model also estimated a mark-up to reflect the inclusion of a network externality surcharge (NES) of **CiC** cpm.

⁸⁸ ACCC, Nov 2007, *MTAS Pricing Principles Determination 1 July 2007 to 31 December 2008*, p.1, p.57

⁸⁹ ACCC, Nov 2008, *Draft MTAS Pricing Principles Determination*, p.13

⁹⁰ ACCC, Nov 2008, *Draft MTAS Pricing Principles Determination*, p.15

- 10.13 These estimates are not directly applicable to the current circumstances given their age and modelling differences and it would not be appropriate to use them in order to derive MTAS charges with precision. Nevertheless, they are set out here in order to suggest the potential magnitude of the effects under discussion. These estimates suggest that it could be reasonable to include up to an additional 8 cpm to account for the combined effect of R-B principles and a NES.
- 10.14 Further, new analysis has been carried out by CEG with respect to an appropriate Network Externality Surcharge for the MTAS. CEG's conclusions are set out in the report attached at Attachment 4.
- 10.15 Optus proposes, conservatively, that the MTAS charge include a 2cpm NES.
- 10.16 In order to be conservative, Optus does not propose the inclusion of a specific additional mark-up to reflect the recovery of FCCs based on R-B principles.

Concurrent networks (3G rollout)

- 10.17 In this paper Optus has submitted that MNOs will need to operate 2G and 3G networks concurrently for some time which has a higher network cost than if they were running a single network, and to take proper account of MNOs' legitimate business interests, the MTAS charge must allow for a contribution to the recovery of recently incurred 3G network rollout costs.
- 10.18 Optus has calculated a reasonable mark-up to cover the additional cost of operating the 3G network concurrently with the existing 2G network of approximately 3.7 cpm.⁹¹
- 10.19 However Optus proposes, conservatively, the inclusion of only half this value (1.8 cpm) as a specific additional surcharge to reflect the additional cost borne by MNOs as a result of the concurrent operation of two networks (both 2G and 3G).

International benchmarking

- 10.20 Optus has submitted that it is appropriate for the ACCC to benchmark the MTAS rate in Australia against rates in comparable jurisdictions.
- 10.21 The ACCC found that the average MTAS rate in AUD cpm as at 1 Jul 08 for the big five European countries was 14.6 cpm⁹² and that according to the European Regulators Group (ERG) the average MTAS rate for 30 European countries were 15.6cpm. Optus found that the averaged MTAS charge for EU 15 was 13.83. This suggests that an appropriate level for the MTAS charge in Australia is likely to be in the range of 14 to 15 cpm.

⁹¹ CiC

⁹² ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p15

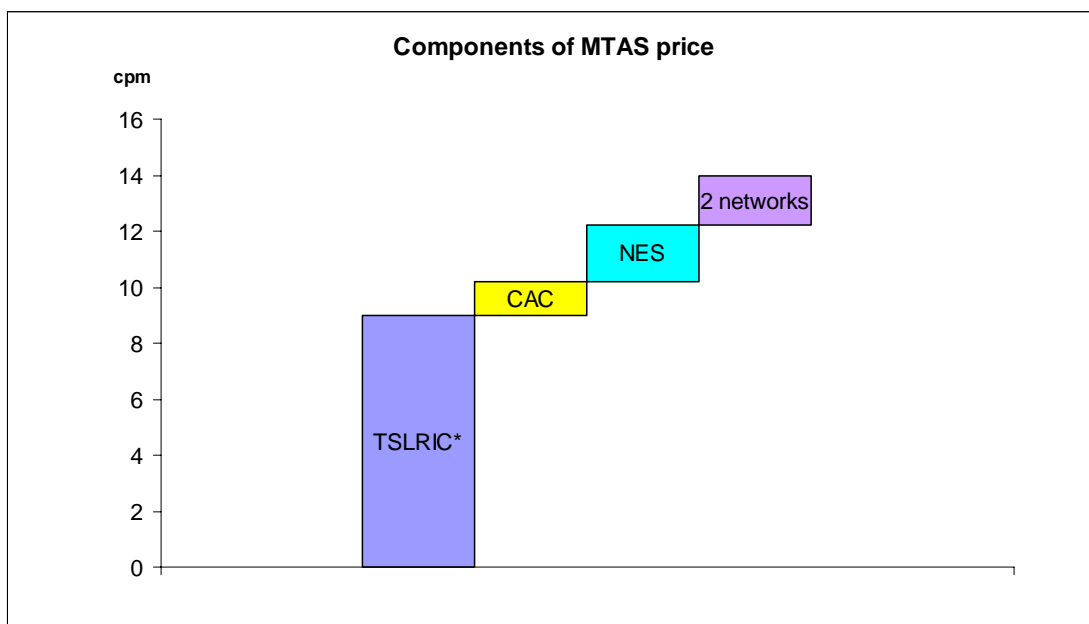
Summary

10.22 Overall, taking each of the factors discussed above into account, an MTAS price of over 20 cpm could be justifiable.

10.23 However, Optus has taken a conservative approach and accordingly has used lower values in deriving its estimate (illustrated in the following chart):

- TSLRIC* base (incl. real world factors recognised by ACCC): 9 cpm
- Customer acquisition costs (CAC): 1.2 cpm
- Network externality surcharge: 2 cpm
- ‘Concurrent networks’ surcharge (2 networks): 1.8 cpm

10.24 Taking these matters into account, Optus considers that the MTAS rate could conservatively be set at 14 cpm. This value is at the lower end of the range derived from international benchmarking.



10.25 This estimate does not include any allowance for either a quality of service premium or for Ramsey-Boiteux pricing principles.

10.26 Accordingly Optus submits that the ACCC should (in considering other issues) consider it reasonable to err on the side of higher MTAS prices. This is because even if it were to err on the high side, such an error would be unlikely to result in a price higher than the efficient level, given the decision to decline to include any allowance for either a quality of service premium or for Ramsey-Boiteux pricing principles.

Time period

- 10.27 The ACCC has proposed that its Pricing Principles Determination should apply for a 3 year period.
- 10.28 Optus submits that the ACCC is entitled to set an indicative MTAS rate for three years, and that it would be reasonable to do so given the increased certainty that this would provide to carriers undertaking significant infrastructure investments which will be required in the next 3 years.

The ACCC is entitled to set an indicative MTAS rate for three years

- 10.29 The ACCC is proposing to have its MTAS Pricing Principles Determination operate beyond the expiry date of the current declaration since the current declaration may be extended pursuant to s152ALA of the Trade Practices Act (“the Act”) and an arbitration may still be on foot at the date the declaration expires⁹³.
- 10.30 Optus supports the ACCC’s proposed 3 year duration for the MTAS Pricing Principles. There is no bar to a decision to extend the Pricing Principles beyond the expiry date of the declaration. There is nothing in the Act which suggests such a maximum duration of a determination on Pricing Principles. Rather the Act specifies only the time when the ACCC must make a determination on Pricing Principles.⁹⁴
- 10.31 The ACCC is entitled to set the time period for its Pricing Principles to extend beyond the expiry date, especially since there could be an access dispute on foot when the declaration expires. Under s152AQA, the ACCC must have regard to the Pricing Principles when arbitrating an access dispute. If the ACCC decided on a shorter period then there could be no Pricing Principles for the ACCC to have regard to for any period beyond 30 June 2009 in the event that:
- an access dispute is on foot in the period beyond the declaration expiry date of 30 June 2009;
 - and either:⁹⁵
 - i) the ACCC decides to extend the declaration but has not issued a new Pricing Principles;⁹⁶ or
 - ii) the ACCC decides not to extend the declaration and the Pricing Principles expired on 30 June 2009.
- 10.32 Further, the ACCC MTAS Pricing Principles is only indicative.⁹⁷ The ACCC is entitled to depart from the Pricing Principles should it decide that in the particular circumstances of the dispute it is not appropriate to apply them.

⁹³ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p6

⁹⁴ s152AQA

⁹⁵ Under s152DNC, a final determination can continue to remain on foot as it is not affected by the expiry of the declaration

⁹⁶ Note that s152QAQ states that the ACCC must make a Pricing Principles determination at the same time as, or as soon as practicable after the ACCC varies a declared service.

⁹⁷ *Vodafone Australia Ltd v ACCC* [2005] FCA 1294

A three year determination would provide certainty for investment

- 10.33 The ACCC in its draft decision indicated that in maintaining indicative MTAS prices at 9 cpm for a three year period, it seeks to provide as much long-term certainty about its pricing intentions as the statute allows, to promote efficient investment by both access providers and access seekers.⁹⁸
- 10.34 Optus submits that it would be reasonable for the ACCC to set an indicative MTAS rate for three years given the increased certainty this would provide to carriers undertaking significant infrastructure investments. The setting of pricing principles for a longer period creates greater certainty for planning and investment decisions.
- 10.35 Further, there will be a substantial requirement for such planning and investment decisions in the near future. For example, the next step in the evolution of HSPA is likely to be the shift towards 4G technology, termed Long Term Evolution (LTE). LTE is forecast to be commercially available in Australia from 2012.⁹⁹ Other emerging mobile technologies are discussed in Appendix D. It follows that substantial network investment will be required on the part of MNOs within the proposed 3 year period of the determination.
- 10.36 Optus' network investments are made on the assumption of the receipt of a forecast level of revenues going forward.¹⁰⁰ It follows that the investment required if Australia's mobile networks are to embrace new technologies will be more likely to eventuate, will arrive earlier and will be planned more effectively if there is greater certainty of revenue over that 3 year period. Greater certainty of termination rates will allow MNOs to better embrace future planning and investment in new technology and platform innovations. That is, the proposed 3 year period is likely to promote efficient investment in infrastructure.

⁹⁸ ACCC, *Draft MTAS Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, November 2008, p.6

⁹⁹ Ovum, 2008, *3G in Australia: Operator strategy and market status*, p.2

¹⁰⁰ Optus, *Draft MTAS pricing principles determination 1 July 2007 to 31 December 2008*, August 2007, p.43

Appendix A: Constraints Faced by Australian Mobile Operators

10.37 In this Appendix evidence is presented of a number of real world constraints faced by efficient mobile operators in Australia which are “appropriate to take into account in a policy context”, and which are not reflected in the WIK model’s cost estimates, including:

- Cost of achieving scale;
- Location of base station sites; and
- Busy hour dimensioning.

Cost of achieving scale

10.38 The ACCC considered the appropriate benchmark scale in its final report on the MTAS Pricing Principles Determination in 2007. It noted that the Tribunal had also considered it, but had left the issue open given the absence of information on minimum efficient scale.¹⁰¹ It stated that “consideration of what market share that best represents the minimum efficient scale achievable by all MNOs is appropriate”¹⁰². On this basis the ACCC took the view that WIK had taken a flexible approach by presenting scenarios with market shares of 25% and 31%¹⁰³.

10.39 However, in addition to considering the appropriate benchmark scale, the Tribunal also recognised that an efficient new entrant would not have immediate access to the economies of scale and scope that might be achievable over time.¹⁰⁴ That is, the Tribunal recognised that an efficient operator would incur “losses accumulated during the period of low utilisation of assets subsequent to entry”¹⁰⁵, before the benchmark market share can be achieved.

10.40 In its draft MTAS Pricing Principles Determination for 2009-2011 the ACCC appears to have recognised that a new entrant’s costs would necessarily be somewhat higher than the most efficient possible level because of its smaller scale, given that a new entrant would not be able to bring the new design and technology to bear immediately in a legacy-sized network.¹⁰⁶

10.41 Optus submits that CEG has modelled the percentage increase in the WIK-MNCM unit termination costs required to compensate for some alternative entry scenarios involving different build-times and periods needed in order to achieve the traffic equivalent to 25% market share.¹⁰⁷ According to CEG, “the results of this modelling indicates that the WIK-MNCM cost estimate

¹⁰¹ ACCC, Nov 2007, MTAS Pricing Principles Determination, 1 July 2007 to 31 December 2008, p11

¹⁰² ACCC, Nov 2007, MTAS Pricing Principles Determination, 1 July 2007 to 31 December 2008, p1

¹⁰³ ACCC, Nov 2007, MTAS Pricing Principles Determination, 1 July 2007 to 31 December 2008, p10

¹⁰⁴ Application by Vodafone Network Pty Ltd & Vodafone Australia Ltd, [2007], ACompT 1, at [72].

¹⁰⁵ CEG, 2008, Efficient Operator Benchmark, p16

¹⁰⁶ ACCC, Nov 2008, Draft MTAS Pricing Principles Determination, p.11

¹⁰⁷ CEG, 2008, Efficient Operator Benchmark, p18 (Attachment 3 to this submission).

(including adjustments made by the ACCC) of 6.6 cpm should be increased by around 25% (or 1.7 cpm) to adjust for the costs of entry.”

Location of base station sites

10.42 Optus submits the **CiC** (Attachment 2), which outlines the many constraints faced by MNOs in locating mobile base stations in Australia. These fall into four main categories:

- regulatory - in locating a base station, a network operator must obtain consent from the applicable authorities and faces environmental and planning constraints in obtaining these permissions;
- physical - in order to maximise coverage and minimise interference the surrounding terrain must be taken into account in a specific way, only locations which effectively service the desired area and minimise interference with other base stations on the network are suitable, any constraints on network linkages and any physical limitations of the site must also be taken into account;
- commercial - a network operator must be able to come to a commercially acceptable agreement with a potential landlord and the proposed build must also be cost effective; and
- other issues - including considerations such as choice of technology.

10.43 Optus considers that the WIK model does not take into account these factors. Nor does the model consider the dynamics of mobile networks, particularly the fact that base station sites are regularly ‘lost’ for a variety of reasons – for example lease expiry, rights under redevelopment clauses being exercised and nearby developments (especially when taller buildings are constructed close by).

CiC

CiC

CiC

- 10.44 Consequently, Optus supports the Commission adopting a “pragmatic application of the TSLRIC approach” in setting the indicative MTAS price.¹⁰⁸ This acknowledges that the 6cpm cost estimates produced by the WIK model underestimate the efficient cost of supply (TSLRIC+) of a real world “constrained” mobile operator in Australia.

Busy hour dimensioning

- 10.45 The ACCC considered the issue of busy hour dimensioning in its final report on the MTAS Pricing Principles Determination in 2007. It noted that it was satisfied that the busy-hour parameters used in dimensioning the WIK model (including the magnitude of the uniform busy-hour demand used for the scenarios in the Draft Report) were reasonable.¹⁰⁹
- 10.46 Optus submits that the approach taken to dimensioning the network for capacity requirements at the "busy hour" (peak usage time) has important implications for the costs of providing a mobile network and currently the WIK model, on which Telstra has relied heavily in making its submissions, is not complex enough to be able to adequately consider these issues. The role of the busy hour and the approach taken on this issue by Optus mobile network engineers is set out in detail in the CiC (Attachment 1).

¹⁰⁸ ACCC, *Draft MTAS Pricing Principles Determination and indicative prices for the period 1 January 2009 to 31 December 2011*, November 2008, page 12.

¹⁰⁹ ACCC, Nov 2007, MTAS Pricing Principles Determination, 1 July 2007 to 31 December 2008, p 88

- 10.47 For each base station within a mobile network the level of demand varies depending on the types of activities that are carried out by end users in its vicinity. This has two important implications:
- the busy hour for a particular base station does not necessarily coincide with the overall peak usage time for the Optus Network as a whole and
 - the peak demand for that base station may be higher than the demand for that base station at the time of the overall network peak.
- 10.48 Further, it is neither practically nor economically feasible to rotate base station capacity (and transmission link capacity) between base stations in order to reflect daily fluctuations in the capacity requirements of each base station.
- 10.49 For these reasons, in designing each particular base station in a mobile network, it is necessary to ensure that the relevant base station will provide an acceptable quality of service (usually measured by the probability that a call to or from that base station will be blocked at that base station) during its own expected busy hour, rather than during the expected busy hour of other base stations of the network as a whole.
- 10.50 The WIK model is dimensioned based upon the assumption that a single busy hour figure can be applied to provision the demand required across the entire mobile network. If the level of average demand used in dimensioning the WIK model was used to design a real mobile network, the result would be that the quality of service at many base stations during their own busy hour would be unacceptably low.
- 10.51 Further, the WIK model does not allow for the additional volume of traffic that will be generated for a very short space of time by special events in particular locations (for example, New Years' Eve celebrations at the Sydney Opera House or the Melbourne Formula One Grand Prix, the Pope at Randwick racecourse). Such demand will warrant the dimensioning of the network (either generally or in particular locations) in a manner which will meet these spikes in demand.
- 10.52 Optus considers that it is also important to note that network dimensioning for "special events" will occur irregularly, adding further complexity. An MNO will need to review these events on an ongoing basis to take into account changes in the timing and/or popularity of those events, as well as the introduction of new events. Optus submits that such planning has not been costed or included in the WIK model. Optus submits the extra burden of planning and provisioning for these events is significant. For example, Optus commenced its planning process for the 2008 Christmas period, in order to ensuring that it has sufficient coverage and capacity to meet expected demand during that period, over 6 months in advance.

Appendix B: International Benchmarking

CiC

Annexure B.1

[Attached as separate document]

Annexure B.2

[Attached as separate document]

Appendix C: Comparative Analysis South Korea, Israel v Australia

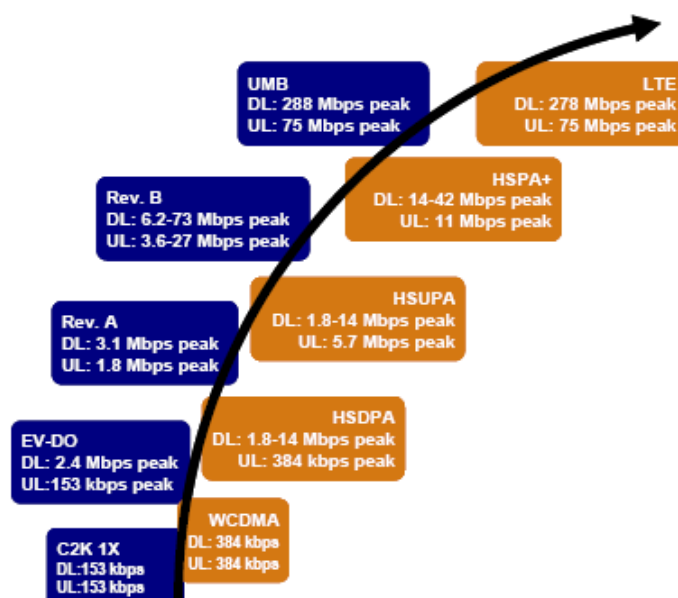
CiC

Appendix D: New mobile technologies

10.53 The next step in the evolution of HSPA is likely to be the shift towards 4G technology, termed Long Term Evolution (LTE). LTE is forecast to be commercially available in Australia from 2012¹¹⁰ since “network operators are just now beginning to see a return on their 3G investments.”¹¹¹

10.54 In addition to LTE, Qualcomm (2008) recognises the dynamic nature of 3G technology developments, as shown in Figure 1 “will continue to evolve, with timely improvements for greater capacity, lower cost, and higher data rates to support a myriad of voice and data services.”¹¹²

Figure 1: Evolution of 3G mobile broadband technologies¹¹³



10.55 Alternative technology platforms include mobile WiMax technology, which is a potential progression to 2.5G and 3G networks enabling users to access data on their handsets and laptops. The role of WiMax is therefore to complement the voice capabilities and coverage levels of existing 2G and 3G networks, and cater more extensively towards the more data intensive applications. This relationship between WiMax and the 2G, 2.5G and 3G networks is illustrated below.

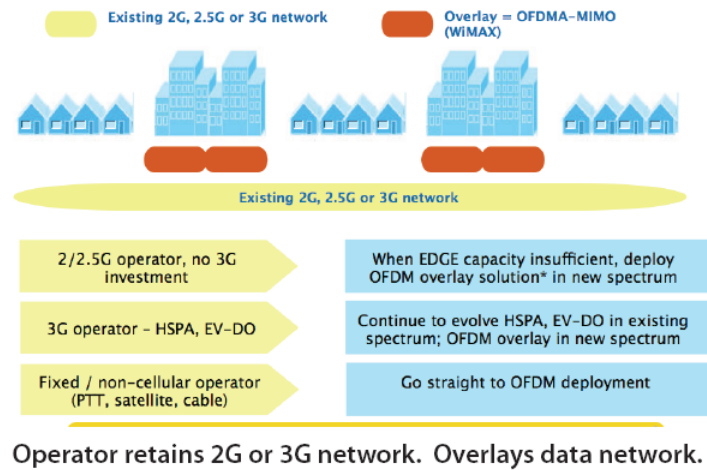
¹¹⁰ Ovum, 2008, *3G in Australia: Operator strategy and market status*, p.2

¹¹¹ iTWire, “3G’s evolutionary roadmap could sideline WiMax,” 27 October 2008, <http://www.itwire.com/content/view/21351/1095/>

¹¹² Qualcomm, *3G provides mobile broadband today: An overview of 3G, its evolution, and some perspectives on mobile WiMAX*, January 2008, p.20

¹¹³ Qualcomm, *3G provides mobile broadband today: An overview of 3G, its evolution, and some perspectives on mobile WiMAX*, January 2008, p.20

Figure 2: Relationship between existing 2G, 2.3G and 3G networks ¹¹⁴



¹¹⁴ WiMax Forum, *Deployment of mobile WiMAX networks by operators with existing 2G & 3G networks*, 10 February 2008, p.3

Attachment 1: Engineering Design of the Optus Radio Access Network

[Attached as separate document]

Attachment 2: Locating Mobile Base Stations in Australia

[Attached as separate document]

Attachment 3: CEG Efficient Operator Benchmark Report

[Attached as separate document]

Attachment 4: CEG Network Externality Surcharge Report

[Attached as separate document]