Section 1

Responses to general questions

Box 2.Q1.1. Omantel has two comments regarding the markets overall.

Some markets are artificial and are in fact regulatory remedies

1.1 Firstly, quite a number of the markets as defined in the consultation paper are not true markets, but instead are remedies. This is true for most of the wholesale markets. They are not real markets since the infrastructure owners would be unlikely to give access in the way perceived by TRA. Omantel believes that Markets 10, 12, 13, 16, 18, 19 and 20 are such markets disguised as remedies.

1.2 Not giving access to competitors is not necessarily anti-competitive. Even in effectively competitive markets, firms may choose to remain vertically integrated and to retain full control over their assets. Forcing access is a highly intrusive remedy, since it allows free-riding on infrastructure by competitors. It is therefore often harmful for long-term investment decisions.

1.3 **It is Omantel's concern that TRA might analyse an arbitrary part of its network and decide that, at that point, since no access is given a market defined at that point requires ex-ante regulation.** Such reasoning is insufficient. No access is given at a particular point because Omantel decided not to sell services at that point to third parties. With the reasoning, TRA can effectively impose access obligations at will. This should not be the reason for an ex-ante competitive framework.

1.4 **A further concern Omantel has is that defining such artificial wholesale markets duplicates remedies.** As an example, for Market 6 TRA proposes a retail price-cap, but in addition it proposes very severe access obligations in Market 18. The duplicate nature of the remedies is hidden behind the definition of two separate markets. Overall, Omantel believes that TRA should re-consider defining markets which purely translates into a regulatory remedy.

Fixed and mobile convergence

1.5 Omantel believes that it would lead to better regulation if instead of defining separate fixed and mobile retail markets, TRA were to define 'access', 'voice' and 'broadband' markets, regardless of which underlying technology is used. This would lead to:

- a redefinition of Market 1 to a market for access to the communications infrastructure, including mobile access
- a merger of Markets 2 & 6 but exclusively for 'voice' services rather than 'broadband services'
- a creation of an additional Market for 'broadband services'
- a merger of wholesale markets 12, 13 & 18

1.6 Omantel believes that in the consultation document there is confusion and inconsistency as regards the treatment of fixed, mobile and data services and that the proposed rearrangement would lead to better regulation and allow Oman to harvest the benefits of market forces better by refraining from interference into commercial decisions.

1.7 There are four principal reasons for Omantel's proposal:

- There is strong evidence of fixed-mobile substitution for access, voice and data services.
  - The tariff structures are similar. Fixed pre-pay contracts exist in the same way as mobile pre-pay.
  - TRA's own survey evidence shows that a SSNIP would not be profitable for fixed voice services, and that mobile call costs are only 9% above fixed voice costs. In order to distinguish between fixed and mobile markets, TRA draws on functionality indicators (what a product is capable of). However, the economic philosophy of the new regulatory framework established by TRA rests on the comparison of behavioural indicators (reactions to price changes) instead.
- There is substitution between fixed, fixed wireless and mobile infrastructure in investment decisions for serving or upgrading areas. The lack of density even in the urban areas of Muscat implies a high potential for mobile infrastructure and high cost per sq. km. of building out a fixed network.
- Omantel also notes that on 25 January 2012, it has merged Oman Mobile and Omantel into one brand. This development is in line with the trend world-wide of communications companies active with fixed and mobile technologies to merge these two operations into one unit for the purpose of network planning, operations and marketing.
- Voice and data products are still seen, within the time period of the review, as separate products and feature different pricing. Voice services yield significantly higher revenues per bandwidth consumed than data services. Customers often choose voice and data services separately. Voice and data services have different elasticities of demand and appeal to different user groups.

1.8 Omantel highlights that at this point in time, significant upgrades and extensions are carried out across fixed, fixed wireless and mobile networks. Nawras is building out a wireless WiMAX-LTE network at 2.3 GHz and 1.8 GHz, while Omantel is using LTE at the same frequencies. In line with the National Broadband strategy, mobility is allowed on 2.3 GHz and both Omantel and Nawras have accepted TRA´s offer to use the spectrum for mobile services by agreeing to provide coverage to non-commercial villages, In the fixed networks, Omantel is in the process of upgrading its network by installing fibre-to-the-cabinet or fibre-to-the-home.

1.9 For most applications that are offered on communications networks, i.e. voice, World Wide Web, email, video-conferencing, video libraries, chat, there will soon be two alternative providers (Nawras and Omantel) for most Omani citizens. Omantel believes that two nationwide infrastructure providers is the number that is sustainable in Oman for the foreseeable future. Omantel notes the efforts of network consolidation agreements in most parts of the world, be it in the form of state sponsored broadband networks (Australia, Singapore), network sharing or mergers. Efficiency gains from operating at a reasonable scale are very high so that even in densely populated countries, a tripling or quadrupling of network infrastructures is often regarded as not economical.

1.10 Given the existence of a further infrastructure company, which competes with Omantel in all fixed and mobile services, Omantel believes that there is no harm in considering retail access, voice and data markets. In these markets, competition from Nawras and resellers, as well as new initiatives to attract more companies, should be recognised in TRA's assessment.

1.11 In particular Omantel believes that data services should not be regulated. Voice services should follow the current policy for retail mobile services, in which TRA takes on a monitoring function to verify that cost improvements are passed on. Retail access services should also follow a similar regulation. Regarding wholesale access, Omantel believes that resale is useful for increasing competition. In Omantel's view, if licenses are extended in scope and depth, then an emphasis should be on commercial negotiations between reformed Class II licensees and Class I licensees regarding access conditions.

Box 2.Q1.2. see answer to Q2.1.1.

Answer: No. The list needs to be curtailed rather than expanded. This will be further expanded upon as part of the comments per individual markets.

Section 2

Comments on individual markets

2.1 In Omantel's comments on individual markets, Omantel will follow a different structure from TRA. For each market, Omantel will consider the market definition, susceptibility to ex-ante regulation, dominance assessment and remedies in turn.

Market 1: Retail access to the public telephone network at a fixed location

Summary of TRA's proposals for Market 1

- TRA defines a market for retail access to the fixed telephone network.
- The market is susceptible to ex-ante regulation.
- Omantel is dominant.
- Regulations imposed are (i) non-discrimination and transparency, (ii) tariff notification and approval, (iii) price cap based on RPI-X and (iv) accounting separation.

Box.2Q.2.1. Fixed-mobile substitution

2.2 There is empirical evidence of substitutability of fixed with mobile services both in the Access and Voice traffic markets. Over the last five years fixed access lines have declined as the subscribers have chosen to disconnect the lines at homes and offices in preference for the mobile phones. Similarly, voice and data traffic as well as revenue has been shifting from fixed to mobile network and the trend is expected to progress further in the same direction with the advent of LTE, IP Multimedia Services (IMS) and other 4 G technologies.

2.3 According to TRA market indicators, there were 295,966 fixed lines in Oman at the end of the second quarter of 2012. This represents a penetration of 10.67% in terms of population (about 2.775m). TRA also recorded 166,264 residential subscribers (down from 181 thousand at the end of 2011), leading to a penetration rate of around 6%. According to the 2010 census, there were 401,000 households, meaning that the household penetration with fixed lines is just over 40%. With around 5m mobile subscriptions, there are almost 17 mobile subscriptions per fixed subscription.

2.4 Therefore, for 60% of households, mobile is the only means of accessing a communications network. This means that for 60% of households, the SSNIP test has either been passed (they switched away from fixed since it was too expensive) or the SSNIP test is irrelevant since there is no fixed infrastructure in their building and they have no choice of taking up a fixed line.

2.5 In this situation, one should consider other indicators. It is important in Omantel's view that the market definition of access is consistent with the National Broadband Strategy. If the implementation of that strategy is carried out with a mixture of mobile and fixed technologies, then also the market definition should reflect this convergence. It is important to note that while the Competition Framework still carries forward segregation between Fixed and Mobile markets, the National Broadband strategy takes more of a proactive stance on the convergence. The targets that have been proposed are defined for broadband regardless whether the service is offered as a fixed or mobile service and even regardless of underlying technologies. At some point in time, the convergence that we are witnessing needs to be considered to form part of also of the Competition Framework to ensure that the policies that the government formulates for the sector are aligned and consistent.

Box.2.Q2.2. Other comments

2.6 There is a genuine questions whether access (Market 1) and calls (Market 2) should be in the same market. TRA states that there is "only a vertical relationship between the two".[1] However, on the other hand, TRA does not distinguish between retail mobile access and retail mobile calls (Market 6), despite the fact that the relationship is identical.

2.7 Omantel believes that over the regulatory review period, fixed access and fixed voice services are separate since

- there are separate products on offer (in contrast to mobile, where prepay does not require an access charge), and
- (access is an input into both fixed voice and fixed broadband products. Without access as a separate market, one would need to compare the bundle of access & internet use with the bundle of access & voice use.

In these situations, the general recommendation is to separate access and voice.

2.8 It should be clarified that "fixed" also includes such services that are provided without granting full mobility to the service. This may involve services, which are packaged as fixed or nomadic leveraging the 2.3 GHz spectrum, but equally other services which make use of other spectrum ranges. It may be noticed that Omantel currently offers fixed services for payphone using the spectrum as part of the mobile license.

[1] Consultation, p. 26

2.9 The current roll-out in the 1.8 GHz + 2.3 GHz (for 4G) but equally the spectrum licenses available for 3G necessitates in Omantel's view a reappraisal of market definitions. For instance, if the market were defined nationally, then regulation should be not stricter than in Market 13 (see answer to Q.5.1.1/2/3 below). An alternative would be to have limited price regulation in built-out areas and no price regulation in un-built areas. The definition of the market is linked with how TRA wants to deal with the question of investments. Investments do not enter the SSNIP test and therefore need to be considered in addition.

2.10 We would prefer that fixed-mobile convergence is fully considered in the market definition to ensure that the regulation is robust to future trends and does not need to be changed due to late recognition of such trends.

Box.3.Q1.1. Is Market 1 susceptible to ex-ante regulation?

2.11 Omantel notes that the retail access market is the only remaining retail market susceptible to ex-ante regulation by the European Commission in 2007.[2] However, in difference to most countries in Europe, Nawras has entered with a nationwide WiMAX network at 2.3 GHz which enables it to provide access to the communications network without the need to laying last mile physical infrastructure.

2.12 In Omantel's view, a distinction can be drawn between markets in which there is existing infrastructure and markets in which there is not. In markets without existing infrastructure, there is no demand or supply and therefore no reason for regulation. Ex-ante price regulation would lead to disturbed investment incentives.

2.13 In any case, be it for a national market or for built-out areas, it is not conceivable that ex-ante regulation be more stringent than historic regulation, since it is a fact that Nawras is increasing competition in this market.

Box.4.Q2.2. Is Omantel dominant in Market 1?

2.14 TRA notes that Nawras has started rolling out its network and has around 6% of the fixed line market. We note that Nawras in fact has almost 40% of the fixed broadband market, which necessitates fixed access as one of the products. Omantel concedes that it continues to have a high market share and can be regarded as dominant, it is nevertheless the case that the increased competition from Nawras must be recognised by TRA in its regulations, which will be expanded upon below.

2.15 Further, Omantel cannot be regarded as dominant in areas in which there is no service.

[2] European Commission 2007/879/EC

Box.4.Q2.3 Does Omantel have above or below profitability in this market?

2.16 Enough specific evidence has been provided by Omantel that it does not have any excessive profitability in Market 1. In fact, from year to year since 2008, Omantel has been submitting its calculation of Access Deficit to the TRA. With a view to make Line Rent affordable to the citizens, TRA has agreed and determined that the Access Deficit gap arising out of Fixed Access should be filled by the Access Deficit Contribution (ADC) from International Calls. Access Deficit Guidelines have been issued by TRA and Omantel has submitted an audited calculation of Access Deficit Net of Contribution (ADNC) from May 2010 (the date of commissioning of 2nd International Gateway by Nawras) up to December 2011 (the period allowed under the Guideline).

Box.5.1.Q1/2/3 Are the proposed remedies in the market appropriate and is the risk of harm to competition correctly identified?

Discrimination obligation

2.17 TRA lists “discrimination” as a concern. In Omantel’s view, this concern normally applies to the supply by an upstream firm to downstream firms in the wholesale markets. If TRA wishes to regulate in order to counter this concern, it should nevertheless be careful not to intervene in contract negotiations too closely. As an example, Omantel can objectively have reasons to give volume discounts to large corporate or government clients. The prime reason would be that these customers provide a significant amount of call volume. Omantel, like any other firm, has fixed costs and therefore a customer who contributes to a significant extent to the recovery of these fixed costs reduces the business risks inherent in the fixed costs. If TRA were to approve of all large client contracts ex-ante, the regulatory burden would increase dramatically and it is likely that some of the business risk sharing made possible by high volumes and fixed costs would be disturbed.

Price regulation and incentives

2.18 As outlined in our response to Q.2.2.1, around 60% of households in Oman do not have access to a fixed communications network. TRA might therefore see investment into providing such access as the real challenge. TRA should therefore only price regulate in Market 1 if it is sufficiently convinced that investment incentives are not disturbed.

2.19 Omantel is currently building out a LTE wireless network using 2.3 GHz / 1.8 GHz frequencies based also on an allowance to provide with mobility. In order not to disturb incentives for roll-out, there should not be price regulation in those areas in which currently there is no infrastructure. One should note in this context that, due to the fact that 60% of households currently do not have access to a fixed line, the distinction between Markets 1 and 4 (retail broadband) are likely to be artificial. New broadband connections will in many cases mean new fixed access connections (via LTE or WiMAX). There is therefore an inconsistency in refraining from regulation for Market 4 while regulating Market 1. TRA needs to consider carefully whether regulating Market 1 does not mean that its intention of not regulating Market 4 is undermined for many new customers.

Market 2: Retail local and national voice call service

Summary of TRA's proposals for market 2:

- Separate fixed and mobile markets despite survey evidence suggesting that SSNIP would fail: 5%/10% price increase would lead to 46%/65% decrease in demand and that mobile prices only have a 9% premium over fixed. TRA regards the survey as not reliable and the responses exaggerated.
- Fixed calls are preferred in certain situations, such as on business premises, poor mobile coverage, higher price sensitivity
- National market, not segregated into business and residential due to equivalent terms and conditions
- The 3-criteria-test is met due to licensing regime, limited growth potential due to small population size, asymmetric conditions vis-à-vis Omantel. There is unlikely to be competition in the short term. There is high risk of high prices. Competitors have entered only recently. The market is susceptible to ex-ante regulation
- Omantel has >90% market share, Nawras expected to grow to around 30% by 2016. There is no suitable wholesale regulation to allow easy entry of pre-select operators but competition is facility based. Omantel is therefore dominant.
- Risks are discrimination, price discrimination through bundling and excessive pricing (prices are not reduced in line with falls in costs).
- Remedies are (i) non-discrimination and transparency, (ii) tariff notification and approval, (iii) price control based on price cap, (iv) accounting separation.

Box 2.3 Q.1 Should fixed and mobile calls be in the same market?

Survey and evidence from Omantel tariffs

2.20 Omantel is surprised that TRA, against its own evidence of a modest premium for mobile calls and survey results indicating substitution, defines separate markets for fixed and mobile voice services.

2.21 In support of the survey, it would also appear from Omantel's tariffs that fixed and mobile calls are in the same market:

2.22 As explained above, empirical evidence exists to support the view that fixed and mobile national call services should be treated as sufficiently substitutable. Customer demands voice talk, irrespective of what network he uses although with better facilities on mobile device he may prefer it over fixed line. During closure of mobile networks, national voice traffic on fixed network increases.

One-way substitutability

2.23 TRA also discusses the issue of one-way substitutability. Omantel would like to refer TRA to the **BEREC report 11/54** on the impact of fixed-mobile substitution on market definition. A lesson from the report is that asymmetric substitutability can be dealt with in two ways. First the regulatory authority should be clear as regards the focal point of concern. This should normally be the services which are more likely to see competition concerns. When considering fixed and mobile services in Oman, the presence of Nawras in mobile suggests that fixed services are of a greater concern. Fixed services should therefore be regarded as the focal or starting point of the analysis. Then

- Either during market definition the effects of asymmetric substitution on the focal point should be considered; or
- The markets can be defined separately but asymmetric substitution should be taken into account in the subsequent stages, i.e. during the (i) 3-criteria-test, (ii) the dominance assessment, or (iii) remedies.

2.24 The key insight for TRA is that substitution from fixed to mobile is more important for regulatory policy than from mobile to fixed, since mobile services on their own can be regarded as more competitive. It would seem that on this basis, there is evidence that shows such substitution. At which stage of the analysis this should be considered is not as important. Given the possibilities of substitution, the ultimate finding should be that fixed calls should not be regulated stricter than mobile calls.

2.25 Regarding access, a complication arose as regarded the use of access for internet connectivity.[3] Fixed access gives rise to a number of services. If there is sufficient substitution between those services, then in order to overcome bundling complications in regulation, it can become convenient to define fixed access as a separate market. This issue does not arise in the provision of the voice service.

2.26 Omantel submits a further reason for why fixed-mobile substitution is likely to increase. Increasingly, mobile tariffs are changing to include higher bundled minutes. In many markets, flat rates with ceilings are the predominant forms of tariffs. This is due to the fact that termination rates have decreased significantly and that mobile call conveyance costs have been steadily reducing. In addition, post-pay contracts are increasing due to the success of expensive smartphones that are often purchased with a long-contract period, during which the operators effectively provide a form of trade credit. With these tariffs, the marginal costs of mobile calls are very low. As long as users stay within the boundary of the contract, they are zero. The effect of this change in tariffs is that mobile call prices are effectively cheaper than fixed call prices under standard tariffs. For this reason, fixed-mobile substitution is likely to increase further with the adoption of smartphones.

Box 2.3 Q.2 Survey evidence regarding fixed / mobile substitution

Omantel has no comment.

Box 2.3 Q.3 Other issues with market definition of Market 2

Omantel has no comments.

Box 3.2 Q.1 Is the 3-criteria-test satisfied?

2.27 Following comments on **Box 2.3 Q.1**, Omantel believes that the constraint imposed by mobile markets should be taken into account. In effect, fixed regulation should not be stricter than retail mobile voice regulation. Omantel believes that retail mobile markets are not susceptible to ex-ante regulation and therefore fixed voice markets would also fail the 3-criteria-test.

2.28 In addition, it appears that TRA has not properly considered the impacts of not only recent regulation on Voice-over-IP provisioning and the TRA decision to allow for certain VoIP applications but equally the impact of a grey VoIP market. VoIP providers, be these legal or illegal, have gained significant market share in the voice market, which constrain Omantel's pricing so the test of emerging competition fails.

2.29 As part of the international market, we will provide an illustration of the size of voip market.

[3] Consultation, p. 27 (b) second bullet

Box 4.3 Q.1 Is Omantel dominant in this market?

2.30 Following comments immediately above, if mobile substitution is taken into account, then the last point at which this should be the case is in the assessment of dominance. The reason is that TRA finds single dominance in Market 2, but not in Market 6. For this reason, Omantel should not be regarded as dominant in Market 2.

2.31 Omantel has a concern regarding the reasoning put forward by TRA. TRA argues[4] that

> *In the absence of wholesale regulation to provide indirect access such as CCS, CPS or WLR, an alternative provider who wanted to enter the call services market would have to duplicate the existing core network in some form, which would require considerable investments that are unlikely to happen in the timeframe of this review.*

2.32 This statement is technically incorrect, since over-the-top VoIP providers can provide competing services without such wholesale regulation. But Omantel is also concerned that in the statement, TRA's view of an effectively competitive market is the one in which CS and CPS providers are present. As Omantel has argued in its general introductory section and will restate in the sections on wholesale markets, this view is dangerous for the evolving infrastructure competition, antiquated and not applicable to Oman.

Box 4.3 Q.2 Does Omantel have above or below profitability in this market?

Omantel has been providing specific evidence to the TRA in its annual products profitability reports that it does not have abnormal profit. TRA has been examining the product wise economic profits of Omantel services and has not found any problem of excessive or below normal profitability in Market 2 (Fixed national and local voice calls).

Box 5.2 Q.1/2/3 Findings on harm and appropriateness of proposed remedies

2.33 Regarding discrimination issues in retail markets, Omantel refers to its answer to **Box 5.1 Q.1**.

2.34 Omantel does not believe it is appropriate to impose a price control based on a price cap. In the answers above, Omantel has identified three competitive constraints: there is fixed-mobile substitution, there are effectively VoIP providers and there is competition from Nawras WiMAX service. Omantel notes that Nawras offers low-price voice only services on its WiMAX network.

2.35 Under these conditions, regulation should be no more strict than proposed for mobile retail voice services.

[4] Consultation, p. 91

Market 3: Retail international voice call service

Summary of TRA's proposals

- In contrast to national voice calls (in which the TRA distinguishes between fixed and mobile calls) international calls are treated as one market because the international call tariffs are similar and call conveyance costs beyond the international gateway are identical.
- The market is national and there is no differentiation between residential and business customers
- The 3-criteria-test is met and the market is susceptible to ex-ante regulation. Entry is treated as difficult due to the licensing conditions for the international gateway. Only Nawras and Omantel operate international gateways and there is no indication of rivalry and competition between them for incoming and outgoing traffic. Entrant Samatel is licensed to operate an international gateway service, but has not done so to date.
- Omantel and Nawras are jointly dominant. They have around 60% / 40% market share at the gateway respectively and 88% of retail mobile origination as well as all of retail fixed origination.
- Risks are undue discrimination, price discrimination / predation and excessive pricing in the sense of not passing on the reduction in call costs.
- Remedies imposed on both Omantel and Nawras are non-discrimination and transparency, tariff notification and approval and accounting separation.

Box 2.4 Q.1 Fixed-Mobile substitution in the market for international call services

2.36 Omantel supports TRA's findings that due to fixed-mobile substitution there is one market for international call services. In Omantel's view, the TRA's correct reasoning in the international call services market throws doubts on its arguments regarding (i) the separation of Market 2 from Market 6, and (ii) the regulations imposed in Market 2 and Market 6.

2.37 In a system of Calling Network Pays, the costs of termination are correctly regarded as marginal costs by the originating operators. As marginal costs, they enter into the pricing of calls. It implies that differences in call prices between fixed, mobile and international calls are most likely due to differences in termination costs. Omantel notes that TRA proposes to regulate both fixed (Market 11) and mobile (Market 17) termination rates and that TRA concedes[5] that mobile and fixed national call prices are not too different. The difference is likely, to a significant degree, to come from justifiable differences in termination rates due to higher mobile network costs. Against this background, it is difficult to justify separate fixed and mobile national call services markets when the international call services market is unified across fixed and mobile networks.

Box 2.4 Q.2, Box 3.3 Q1

2.38 Omantel repeats its comments regarding fixed / mobile substitution. In addition we provide further details regarding the voip market relating to the Pakistani market. Recently as well all may know, the Pakistani regulator allowed international traffic only to be carried through one common IGW in Pakistan. This immediately had an impact on the way traffic to / from Pakistan was carried as all traffic would be pegged to an officially agreed rate.

2.39 This change also allowed, for the first time to size the voip market. The traffic pattern has changed dramatically for both Omantel Mobile and its mobile resellers. Compared to traffic in September 2012, (before the change in Pakistan was implemented) Omantel Mobile Pakistan traffic for October increased considerably. Considering price elasticity, Omantel is of the view that the illegal operators bring out significantly higher traffic as compared to legal traditional traffic, which mainly would constitute voip traffic.

Box 4.4 Q1

2.40 TRA finds Omantel not to be dominant in the international call market. In its analysis, Nawras provides effective competition after connecting to the TATA international network and establishing the International Switching Centre ISC2.

2.41 Omantel believes that Nawras provides a similar level of competition in other markets.

Box 5.3 Q.1/2/3

While the tariff obligation has been applied equally across all markets, and given the level of competitive intensity, we would suggest that the TRA considers to review with an objective to reduce the price control mechanisms. Further than this, Omantel has no comments.

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[5] Consultation, p. 30

Market 4: Retail broadband internet access from a fixed location

Summary of TRA's proposals:

- TRA defines a national market which includes xDSL and fixed wireless (WiMAX) access. Business and residential customers are in the same market.
- The three criteria test is met and the market is susceptible to ex-ante regulation. However, TRA notes that Haya Water is building out a regional access fibre network.
- TRA believes that Omantel is not singly dominant since Nawras recently entered the market and had an end-2011 market share of 33.5%
- TRA concludes that due to the evolving nature of the market, the asymmetric market shares of Omantel and Nawras, different costs and excess capacity of Nawras, there is no joint dominance.
- Therefore the market remains unregulated.

Box 2.5 Q1 Are mobile and fixed broadband services in separate markets?

2.42 Omantel notes that, in its understanding (which TRA should confirm, see comments on Market 6 below), neither fixed nor mobile broadband services are regulated. This implies that the question of whether mobile and fixed technologies are in the same broadband market does not play a role for regulation. There would be no regulation in either case.

2.43 In this scenario, it is regulatory best practice to leave the market definition open. The advantage of doing so is that while markets change, regulators often find it difficult to change with them. A market definition can become entrenched even if it is outdated. Omantel believes that TRA definition is an outdated market definition for Market 10.

2.44 A significant development regarding wireless and mobile broadband services is the undergoing and proposed policy changes. Refarming is now allowed[6] as evidenced in the recent developments associated with 900 MHz (for 3G) and 1.8 GHz (for 4G) and there are proposals to allocate more frequencies for mobile use. Even more, the MoTC (in its consultation on the National Broadband strategy) as well as the TRA (in its recent decisions relating to 2.3 GHz) is suggesting a service / spectrum policy which is neutral to underlying technologies and licenses. Based on such developments, Omantel and equally Nawras have accepted certain obligations (coverage of noncommercial areas which otherwise would have been covered through USO) to both build out LTE a/o WiMax a/o 3G networks. The conditions allow the operators, regardless whether the spectrum forms part of their fixed licenses, to offer as a mobile service. This implies that the TRA has already through decisions that relate to spectrum and licenses allow for convergence.

[6] as stated in Consultation, p. 34

2.45 With this change in applied spectrum / licensing, one of TRA's arguments against combining mobile and fixed broadband services in one market would no longer apply. Omantel does not wish to express that therefore mobile and fixed broadband services should be in the same market, but instead that TRA would be well advised to leave the market definition open.

Box 2.5 Q.2 Other issues in market definition

Omantel has no comments.

Box 3.4 Q.1 Is the 3-criteria-test satisfied?

2.46 Omantel detects a certain tension between TRA's finding that the market is susceptible to ex-ante regulation on the one hand, and the final decision not to regulate due to the fact that the market is nascent and emerging. TRA's own reasoning for not imposing regulation should be applied already at the stage of the 3-criteria-test.

2.47 Omantel perceives a certain caution in TRA's approach. Presumably TRA wishes to retain the option to regulate broadband services at a later date. TRA also seems to be uncertain as to whether two operators (Nawras and Omantel) are sufficient to guarantee effective competition.

2.48 In Omantel's view, in this situation it is much preferable for TRA to leave the market definition and therefore also the 3-criteria-test open.

Box 4.5 Q.1 No company is dominant and there is no joint dominance

2.49 Omantel agrees with the analysis. Omantel believes that TRA should cross-reference its own Guidelines on the issue of regulation in an emerging market.[7]

Market 5: Retail dial-up internet access from a fixed location

Summary of TRA's reasoning:

- Dial-up is in a separate market from broadband access due to (i) basic service level (no video, low speed) and (ii) low cost effectiveness for high users
- Market is national and there is no differentiation between residential and business users
- The 3-criteria-test fails, since there are low barriers to entry (class II license required only for ISP), demand is steadily declining and broadband / WiMAX access provides an effective constraint. The market is not susceptible to ex-ante regulation.

[7] TRA Market Definition and Dominance Guidelines, chapter 4.3 page 13

Box 2.6 Q.1/2

2.50 As in Omantel's answer to the questions regarding Market 5, Omantel believes that it is best regulatory practice to refrain from defining the market "Retail dial-up Internet access from a fixed location". TRA decision not to regulate internet access is independent of the market definition for mobile, fixed, broadband and dial-up services.

Box 3.5 Q.1

2.51 While Omantel agrees with TRA's findings, and concurs with TRA's reasoning that entry barriers are low and that services are declining, Omantel notes TRA's argument:[8]

> *In addition the rapid decline in the numbers of dial-up internet subscribers suggests that more recently available alternative services, especially mobile broadband access services and WiMAX based fixed internet access services constitute an effective constraint on what can be done by a dial-up service provider.*

2.52 This reasoning would suggest that at least there is asymmetric (upward) substitution from dial-up internet access to broadband internet access. TRA illustrates in this way an approach to dealing with such asymmetric substitution that Omantel propose above (on the basis of the BEREC paper) for Markets 1 & 2 and 6. This approach consists of defining separate markets but recognising the constraints in subsequent steps.

Market 6: retail mobile services market

Summary of TRA's reasoning:

- In contrast to markets defined for fixed, technology, TRA believes that there is only one retail mobile access, calls and broadband market.
- TRA notes that fixed and mobile markets are different due to product characteristics rather than price differentials.
- The 3-criteria-test is met and the market is susceptible to ex-ante regulation. Class I licenses are required, competition to Omantel and Nawras is only exerted to a limited extent by resellers. Competition policy alone is not sufficient to prevent damage to resellers or the other class I licensee, or to stop them from acting conjointly to defer competitive outcomes.
- TRA finds no company with single dominance, since Omantel has 47% and Nawras has 41% of the market.

[8] Consultation, p. 63, criterion (b)

- TRA is concerned with the performance of resellers. Resellers' market share is 12%. Resellers have limited flexibility and depend significantly on their host network, but they have some success in competing on non-price terms. Market entry is difficult, also as reseller.
- TRA finds limited reductions in mobile prices in the past three years, as measured by revenue per minute divided by total traffic.
- TRA does not find single dominance.
- TRA finds joint dominance. It argues that there is transparency, a mature market, moderate growth on the demand side, a low elasticity of owning a mobile, a homogeneous product, a similar cost structure, similar market shares for Omantel and Nawras, absence of excess capacity, high barriers to entry, lack of countervailing buyer power, lack of potential competition, existence of informal links between Omantel and Nawras, the existence of retaliatory mechanisms, reduced scope for price competition and the existence of incentives for tacit collusion. On the basis of these indicators, TRA concludes that there is limited and ineffective competition and incentives for tacit collusion, even if actual collusion cannot be shown. TRA argues that this is sufficient for a finding of joint dominance.
- The risks are undue discrimination and excessive pricing through a failure to pass on cost reductions.
- Omantel and Nawras should be subject to (i) obligations of non-discrimination and transparency, and to (ii) price controls.

Box 2.7 Q.1 Is mobile broadband part of a wider mobile services market?

2.53 Regardless of the precise decisions regarding market definition / 3-criteria-test / dominance / remedies, it is fundamentally important to recognise somewhere along that chain that mobile broadband services are an emerging market with significantly higher growth rates than voice mobile services.

2.54 The logical problem TRA faces is not whether access to a mobile network should be regarded as a separate market from the services provided on the network (voice and broadband). The parallel issue arose in the fixed markets, where TRA decided to separate access from voice and broadband services, citing that "only a vertical relationship exists between [access and calls]".[9] The same reasoning would apply here. In Omantel's opinion what is important is the degree of substitution between the downstream services. If voice and broadband services are purchased largely separately, then market definition gains from defining separate markets. If they are purchased together, then the market definition exercise gains less from separate markets.

2.55 TRA has demonstrated in its consultation that the question of a competitive constraint can be asked at each of the stages market definition / 3-criteria-test / dominance and remedies. It is important to retain this flexibility not only when services are regarded to be in separate markets, but also when they are grouped together, such as in Market 6. In this case, while grouping together access, voice and broadband, it is nevertheless important to define different regulatory assessments for the individual products of the defined market.

Box 2.7 Q.2 Other comments on market definition

2.56 As mentioned above, the other issue that arises is whether access and services should be in separate markets.

Box 3.6 Q.1 Is the 3-criteria-test satisfied?

2.57 Omantel has provided detailed evidence into the competitive evolution in the mobile market in the general introductory section. Omantel would like to add to this analysis that it is difficult to argue that a market with a penetration rate of 177%[10] and a growth rate in subscriptions of around 10% or 450,000 subscriptions between Q1 2011 and Q1 2012 does not present consumers with sufficient benefits and would therefore need to be regulated ex-ante.

2.58 Further, in Omantel's view, TRA needs to decide on a market model. If it imposes regulations that ultimately allow resellers to become more integrated MVNOs (Market 18), then the regulatory intervention would be in favour of strengthened and more independent competitors. In that case, the 3-criteria-test, which considers *a tendency* towards competition, should take into account those Market 18 regulation, or indeed a change in Class II licenses that would allow them to become somewhat more operationally independent. In these cases, it would be difficult to sustain that the 3-criteria-test holds for market 6.[11]

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[9] Consultation, p. 26

[10] TRA Telecom Market Indicators, Q1 2012

[11] TRA recognises this issue on page 189 of the Consultation. Omantel notes that it objects to TRA's proposed regulations of Market 18.

2.59 Omantel understands the wariness of TRA, given that there are "only" two operators in the market. In that sense, Omantel understands that TRA would like to "monitor" the market. Under the current regulatory framework, TRA is only able to do so if it finds that the 3-criteria-test is met and that there is joint dominance. This appears to be a fundamental weakness of the regulatory framework for Oman, where monitoring might understandably still be required but other regulations such as price regulations in the mobile retail market could not be justified.

Box 4.6 Q.1 Are Omantel and Nawras jointly dominant?

2.60 TRA finds that there is potential for tacit collusion: [12]

There are clear incentives for tacit collusion in Market 6. The existence of incentives for tacit collusion is not, of course, the same as the existence of tacit collusion: the former is concerned with the opportunities inherent in a market situation while the latter is concerned with actual behaviour. The TRA considers the existence of incentives for tacit collusion is sufficient when assessing the need for ex-ante regulation even if actual collusion would need to be found when determining ex post anti-competitive behaviour.

2.61 Omantel strongly objects to this logic. This notion of a "danger" of tacit collusion is borrowed from merger control, where an authority needs to decide whether the merger of two firms would post-merger – in the future – potentially lead to tacit collusion. This is not the case for the current assessment of ex-ante markets. Here, Omantel and Nawras are active in the market now. If TRA found anti-competitive collusive behaviour, it could sanction Omantel and Nawras under the (forthcoming) ex-post competition decree.

Box 4.6 Q.2 Level of spare capacity of Omantel?

As we all may know, the way mobile networks are built corresponds to forecast of demand leaving some capacity for expected growth be it that this results from our own customers or from the customers of our mobile resellers. The constraints to cater to demand are known and most importantly involve spectrum. Currently, with the recent re-farming initiatives, we do not foresee specific concerns on our capacity to build out networks in line with demand.

[12] TRA Consultation, p. 116

Box 4.6 Q.3 Are the mobile number portability arrangements effective?

Since MNP was introduced a total of 180 thousand customers have benefitted from this measure. Recent the MNP feature has been extended to also include the mobile resellers which will further enhance the competitiveness of the market.

Box 4.6 Q.4 Have national mobile call prices decreased over the past 3 years?

No change in headline price for national mobile calls., although through promotions, bundles, and charging mechanism from per minute to per call have benefited the consumer with better and lower rates compared to the published per minute charge

Box 5.4 Q.1/2/3 Assessment of proposed remedies

2.62 Omantel does not agree that there is a risk or a history of excessive pricing. This is evidenced by the strong demand for Omantel's and Nawras' services. Moreover, there is increasing competition from resellers. Omantel believes that the remedies need to take into account additional regulation of Market 18 and potential license changes for Class II licensees.

2.63 Omantel does not believe that there is a case for price regulation. Omantel is however encouraged by the form of price regulation suggested by TRA. TRA writes:[13]

> *The emphasis [of the remedies] would be on monitoring and identifying the introduction of pricing and other terms of service that are either not justified on cost grounds or constitute evidence of a pattern suggestive of tacit collusion or of implementation of common policies.*

2.64 While TRA calls the regulation "price control" regulations, the description quoted above appears to be more one of a *tariff notification and approval* regulation. Omantel would understand the caution by TRA in a two-player market, i.e. that it would retain some monitoring function. On the other hand, Omantel would strongly and justifiably object to counts of tacit collusion and retail price controls such as price caps or cost based pricing.

Market 7: retail national leased line service

Summary of TRA's proposals

- Leased lines of all speeds are included. International and national leased lines are in different markets. It is a market for business customers.

[13] Consultation, p. 190

- The 3-criteria-test is met. There are high barriers to entry. Competition is only from Nawras, which in 2011 installed 5,200km of fibre optic lines and has a comparable network to Omantel. Ex post competition rules are insufficient.
- Nawras can at this point only provide end-to-end leased lines if it rents terminating segments from Omantel or builds a dedicated terminating segment for a customer. Also Nawras technology on its new core network may not be suitable for leased line service.
- At this point in time, TRA believes that Omantel alone is dominant in this market.
- TRA believes that risks are (i) undue discrimination, (ii) price discrimination via cross subsidisation or predation and (iii) excessive pricing.
- TRA proposes as remedies (i) non-discrimination and transparency, (ii) notification and approval obligations, (iii) price control obligations under the pricing regime established in 2004 and (iv) accounting separation.

Box 2.8 Q.1 Should all types of leased lines be included in the market?

2.65 Omantel agrees with the market definition but believes that internet connectivity and 'virtual' leased lines such as VPNs play an increasing role in the retail business market.

Box 2.8 Q.2 Other comments

Omantel does not have other comments.

Box 3.7 Q.1 3-criteria-test

Omantel has no comments.

Box 4.7 Q.1 Is Omantel dominant?

Omantel has no comments.

Box 5.5 Q.1/2/3 Risk to harm of competition and appropriateness of remedies

Omantel has no comments.

Market 8: retail international leased line service

Summary of TRA's reasoning:

- The market is different from national leased lines since contracts are different (often global or regional contracts). The market is national in scope.

- The 3-criteria-test is met and the market is susceptible to ex-ante regulation. There are three licensees in this market, Omantel, Nawras and Samatel, with only Omantel fully operating. It remains to be seen whether Nawras will be operating in the market. Ex post regulation may be difficult due to the confidential nature of contracts.
- Omantel has 100% market share. However, Nawras has recently won a first customer in Qatar, but its intention and ability to compete in the market is still to be tested. There is no other potential competition.
- Omantel is dominant in the market.
- Risks of harm to competition are (i) undue discrimination, (ii) price discrimination via cross subsidisation or predation and (iii) excessive pricing. TRA is concerned about excessively long contract periods.
- Omantel should be subject to (i) obligations of non-discrimination and transparency, (ii) notification and approval obligations, (iii) a price cap mechanism / price control as established by TRA in 2004 and (iv) accounting separation.

Box 2.9 Q.1 Appropriateness of market definition

Omantel has no comments.

Box 3.8 Q.1 3-criteria-test

Omantel has no comments.

Box 4.8 Q.1 Is Omantel dominant?

Omantel has no comments.

Box 5.6 Q.1/2/3 Risk to harm of competition and appropriateness of remedies

Omantel has no comments.

Market 9: retail business data services from a fixed location

Summary of TRA reasoning:

- The market is national and includes IP/MPLS, Ethernet, ATM, FR and Internet Leased Lines
- The market is not susceptible to ex-ante regulation since the 3-criteria-test fails. Nawras will be able to compete in this market. The move from legacy products

to IP based products will enhance competition. Ex-post competition law, combined with regulation at the wholesale level, is sufficient to address market failures in this market.

Box 2.9 Q.1 Appropriateness of market definition

2.66 Omantel concurs with TRA's view that more and more companies are moving from leased lines to managed data products.[14] Omantel believes that with the upgrade of its network, yet more customers will migrate to managed data services. Omantel notes that therefore it would expect leased line markets to be merged into managed data services markets in the coming review period from 2014.

Box 3.8 Q.1 3-criteria-test

2.67 Omantel agrees with the findings of this test. Omantel is however puzzled as regards the various findings of the impact of Nawras' competition on regulation. While in Market 9, the impact is such that the market is not susceptible to ex-ante regulation, Market 6 is susceptible to regulation, there is joint dominance with Nawras and a remedy of a light form price regulation. In Markets 1 and 2 Omantel has single dominance and there is a price-cap.

2.68 Fundamentally, Nawras is an infrastructure competitor to Omantel and is active in all markets in which Omantel is active. It has been more or less successful in these markets, and has entered some earlier and others later. However, fundamentally, Nawras provides comparable competitive constraints in each of these markets. The only difference must therefore come from the demand side. While TRA realises as one of its regulation criteria that markets with a low elasticity of demand feature less intense competition, it remains unclear whether this alone should lead to a finding of ineffective competition.

Market 10: Wholesale voice call origination on the public telephone network provided at a fixed location

Summary of TRA reasoning:

- The service includes, for example, pre-select operators. TRA recognises that it currently is not in existence but believes that the market could come into existence during the regulatory review period.
- Nawras is constructing alternative facilities.
- The market is national, customers are other licensed service providers

[14] Consultation, p. 42

- The market meets the 3-criteria-test and is susceptible to ex-ante regulation. There are high barriers to entry and the access network has bottleneck characteristics.
- Omantel is dominant with 96.8% of service share and 85.8% of revenue share [but this appear to be the retail shares]
- Risks of harm to competition are (i) refusal to supply, (ii) undue discrimination, (iii) excessive pricing.
- Remedies are (i) obligation to supply call origination services to all eligible service providers who request them, (ii) updated RIO, (iii) non-discrimination and transparency, (iv) notification and approval obligations; price control obligation according to LRIC+ costs and (v) accounting separation.

Box 2.11 Q.1 Is the market appropriately defined?

2.69 Omantel strongly disagrees with the definition of a "wholesale fixed voice call origination market". As TRA states itself,[15]

This service is not operational at this time. It could become operational in the time horizon of this analysis.

2.70 In other words, there is no such market. Instead, the market is artificially created by regulation. Omantel objects to the definition of the market for two substantial reasons:

- The idea of competition through "indirect access voice providers" is outdated.
- The introduction of indirect access providers is harmful for facilities based competition and investment.

2.71 In Europe, regulation that made indirect access providers possible was introduced in the early 1990s. Depending on details such as whether a "single invoice" was available (that the incumbent invoiced all calls regardless of the operator), they played a larger or smaller role in national markets. Where they were successful, retail call prices dropped significantly. This is not surprising, since these indirect call providers benefit from regulatory arbitrage. They purchase wholesale services at cost and then add a small margin. This means that overall the price level will fall to costs plus a small margin. Even when these operators were introduced, negative side effects became clear. Those companies that, like Nawras, invested in their own infrastructure were less successful than indirect call operators that often had very limited investments. The bias towards regulatory arbitrage on the incumbents' network harmed the roll-out of alternative infrastructure.

[15] Consultation, p. 43

2.72 TRA should ask itself the question whether Omantel (or Nawras) would still have incentives to extend its fixed network if the return that it would achieve were dictated by TRA. Indeed, TRA should ask itself whether Nawras would have built a rival infrastructure under an indirect access regime.

2.73 In addition to the investment issue, there are in fact indirect access providers active in Oman in the form of VoIP and teleconferencing providers. This is particularly the case after opening VoIP on mobile networks. While VoIP was opened up to ensure that the market would be regularized, the evidence at our hands (as provided to Box 2.4 Q.2, Box 3.3 Q1 questions) illustrate a massive white a/o grey market that provide services using any combination of voip applications including but not limited to Microsoft Skype, Viber, Google Talk, Apple FaceTime, Citrix or Cisco WebEx. In fact, many of the over-the-top providers are large companies which supply services that can be accessed over fixed or mobile broadband connections. These providers were not existent when indirect access competition was first devised and introduced. Since they often charge no or only limited fees, they provide a significant competitive constraint.

2.74 If TRA wishes to define a market for indirect access, then these VoIP over-the-top providers should also be considered as they are already active in this market.

Box 3.10 Q.1 3-criteria-test

2.75 The analysis of TRA is flawed. Indirect access providers using over the top internet services can easily use existing Omantel or Nawras infrastructure. They are fast-growing and already provide a competitive constraint which is becoming increasingly important. Ex-ante regulation might concern the neutrality of the network, but the TRA's analysis is based on classical indirect access providers and therefore mistaken.

Box 4.9 Q.1 Is Omantel singly dominant?

2.76 Omantel notes that there is much confusion in the analysis regarding retail and wholesale markets. The wholesale market currently does not exist and therefore without customers it is not meaningful to consider the concept of dominance.

Box 5.7 Q.1/2/3 Is harm to competition correctly identified and are the proposed remedies appropriate?

2.77 Omantel disagrees both with the analysis of harm as well as the appropriateness of remedies.

2.78 Regarding refusal to supply, Omantel notes that in a market with competitive facilities based competition, each player would be likely to refuse supply to indirect access providers, yet the market would be competitive without these. Therefore the indication of "refusal to supply" is natural independently of the degree of competition in the market.

2.79 Omantel would understand certain requirements of net neutrality, but a decision to force its network open to access providers, while it carries on with its own investment risk and is in competition with over-the-top service providers, is out of proportion and not based on the correct economic analysis.

Market 11: Wholesale voice call termination on individual public telephone networks provided at a fixed location

Market 17: Wholesale voice call termination on individual mobile networks

TRA's reasoning and remedies for markets 11 and 17 are parallel:

- Each fixed network has a monopoly for terminating calls
- The market is national, customers are other Class I licensed network providers [why not Class II]
- By construction the market will have a single service provider and therefore the 3-criteria-test is met and the market is susceptible to ex-ante regulation
- Omantel and Nawras are both dominant as single operators
- Risks of harm to competition are (i) refusal to supply, (ii) undue discrimination, (iii) excessive pricing and (iv) cross subsidisation.
- Remedies imposed are (i) obligation to supply, (ii) updated RIO, (iii) non-discrimination and transparency, (iv) notification and approval obligations, (v) price control based on LRIC+ costs and (vi) accounting separation.

Answers to questions regarding market 11 and 17

2.80 It is common regulatory practice in countries with Calling-Party-Network-Pays systems to regulate termination rates. The economic literature states that under certain circumstances, termination rates can be used as an instrument of tacit collusion and can increase prices.

2.81 Omantel has no comments regarding this reasoning and its applicability to Oman in the face of overwhelming regulatory convention.

Market 12: Wholesale network infrastructure access at a fixed location

Summary of TRA reasoning:

- This market covers partially and fully unbundled local loops. The market is differentiated from bitstream access and pre-selection services.
- Facilities based competition from Nawras' fixed-wireless network is insufficient.
- TRA believes that 25% of Omantel's MDFs with around 85% of copper lines could be economical.

- The 3-criteria-test fails, due to insufficient competition from other regional fibre deployments and high license barriers to entry. The market is susceptible to ex-ante regulation.
- Omantel is dominant in the market. TRA does not consider in this report the current upgrade of Omantel's network to MDUs at a higher network level, or the trade-off between infrastructure and investment.
- Risks of harm to competition are (i) refusal to supply, (ii) non-price discriminatory treatment, (iii) anti-competitive price discrimination, (iv) excessive pricing and (v) cross subsidisation.
- TRA notes that there is an issue with upgrades to NGA networks and proposes periods of notice etc. in a further regulatory procedure.
- Remedies require the provision of partial, fully unbundled und sub-loops, but also internal and external tie cables, site access and co-location and the provision of power supply at MDF sites.
- Obligations are (i) to supply these facilities to all eligible service providers who request them, (ii) to publish a Reference Access Offer, (iii) non-discrimination and transparency, (iv) notification and approval obligations, (v) price control based on respective cost standards, such as LRIC+ for ULL rental and incremental operating expenses for once-only inspection and necessary conditioning, and (vi) accounting separation.

Box 2.13 Q.1 Should line sharing and full unbundling be in the same market?

2.82 Omantel objects to the definition of this artificial market (see answers to **Box 2.13 Q.2/3/4**). If a market were defined in the way proposed by TRA, then line sharing and full unbundling should be in the same market.

Box 2.13 Q.2 Is ULL technically feasible in Oman?

2.83 Omantel strongly objects to copper wire unbundling for two technical reasons and one economic reason. Omantel will explain the economic reason in its answer to **Box 2.13 Q. 4**.

2.84 There are two technical reasons why ULL would be harmful for the Omani telecommunications sector in the long-term. Firstly, it prevents technical progress; secondly, an ever decreasing number of sites make it LLU economical due to Omantel's network upgrade and, for this small number of technically feasible locations, a significant amount of regulatory and management time would be spent with little benefit for consumers or the Omani economy.

2.85 As illustrated by Figure 2.3 of TRA's consultation,[16] Market 12 considers the unbundling of copper local loops. TRA states:[17]

For the avoidance of doubt, TRA considers the connectivity to be that which is provided by copper pairs.

2.86 All over the world, and also in Oman, communications operators attempt to find solutions that either replace or shorten these copper pairs. In Oman, Omantel is in the process of upgrading its access network using street cabinets (FTTx) . Physically, this will mean that the number of points in the network at which copper lines are connected would increase and the density of lines in these locations is decreased. The traditional main distribution frame will effectively have moved to the location traditionally occupied by street cabinets. Once the network upgrade is complete, Omantel will have fewer points at which fibre cables are connected to copper cables with more than 1,000 lines.

2.87 A second technical upgrade complication arises. The technical difficulty of sending high-frequency signals over cables of copper-wire lies in the issue of interference. There are new technologies available, such as "vectoring" that take into account the interference between different copper pairs. However, they no longer allow the independent usage of each pair, but require an interference management over the whole cable. ULL prevents this technical progress.

2.88 A third reason of why technical progress is prevented is the problem of network upgrades at unbundled exchanges. If copper is replaced with fibre, then the unbundled loops would disappear. TRA itself comments on this issue, simply stating that "a sufficient period of notice must be given". In countries with unbundling, a typical period of notice would be 3 to 5 years. This would imply that if Omantel wanted to upgrade its access network to fibre, yet a competitor had an unbundled local loop, it would need to retain the old infrastructure for a further 5 years (!). The result is a significant reduction in roll-out speed of fibre solutions. In Omantel's view, the upgrade problem is also one of the reasons why countries with extensive ULL deployments (such as the EU) are now lagging behind with fibre usage in the access networks.

2.89 Omantel also takes note of the fact that the National Broadband strategy does not treat upgrading of copper networks as a prime avenue to realize defined national objectives. Emphasis is rather placed on a combination of fibre, LTE and satellite solutions. Given such a focus, we believe it is important that the regulatory levers are aligned to ensure to avoid a situation whereby operators would fixate investments in legacy networks based on a process to deregulate rather than allow operators to primarily compete based on new ranges of technologies.

[16] Consultation, p. 46

[17] Consultation, p. 46, first paragraph

2.90 Furthermore, the technical challenges of unbundling at the street cabinet location are much higher since these are generally not in-building locations. There are questions of space, security, connectivity, power etc. Experience in many countries shows that resolving these questions would take a considerable amount of time, energy and staff, regarding the definition of hand-over processes, access questions, repair and installation costs, etc. It would in Omantel's opinion be a wasteful use of resources, unless such a process is aligned to government and national priorities. It is incorrect to simply state that whether ULL is economically feasible is a matter for the market to determine, since in order to make it feasible Omantel and TRA are forced to carry out significant investments in time and money that are then not born by new entrants.

Box 2.13 Q.3 Should alternative fibre access networks and fixed wireless access networks be excluded?

2.91 Omantel believes that the ULL market should not be defined. Given that it is an artificial market, it is pure regulatory expediency to exclude other competitors from regulation. This allows TRA to claim at the subsequent stage that the 3-criteria-test is met and that Omantel is dominant in the market.

Box 2.13 Q.4 Other comments

2.92 Omantel strongly disagrees with the definition of this artificial market. In addition to the technical reasons, there are two important points which TRA should consider:

2.93 As discussed, Oman is proceeding in the process to set out a national infrastructure company to build a national (broadband) infrastructure. These discussions are effectively about Market 12. Introducing ULL before decisions were made regarding a national broadband network would significantly complicate the setting up of such a company and network.

2.94 Related to this, and highly important, there is no overwhelming empirical evidence and economic literature regarding the failure of ULL regimes in spurring the investment needed for upgrading local networks to fibre. Omantel has discussed this at length in the general introduction. In Oman, this issue is particularly important since fixed line penetration is comparatively low. A recent article, which also gives references to previous work, is *Regulation and Investment in Next Generation Access Networks: Recent Evidence from the European Member States* by W. Briglauer, G. Ecker and K. Gugler (2012). The main finding of the paper is that

It appears that the approach of the European Commission of strict cost-based access regulation will not elicit the huge new investment needed for a comprehensive NGA roll-out.

2.95 The paper finds that successful NGA roll-outs happen in countries that either adopt a national broadband company, such as Australia and Singapore, or, at the other extreme, countries that deregulate access such that competitors have no regulated access to the local loop, as in the U.S.. The European model of cost based access, which is emulated in the TRA regulations, has not shown to lead to fibre upgrades in the same way. In addition to the transitional technical problems, such as the inertia introduced by long periods of notice of unbundled loops, the problem is one of investment incentives. Regulated prices with regulated costs of return do not sufficiently allow for companies' real market risk to be taken into account when making investments. As a result, investments fail.

2.96 Briglauer, Ecker and Gugler also find that some increase in competition increases investments, while too much competition lowers investments again. It is possible that the emergence of Nawras as a serious infrastructure competitor across most services might be a sufficient force to induce profitable investment in the market.

2.97 In any case, it seems that Oman has realised that significant investments are needed to build out a fibre network. It has started to take action with the National Broadband Initiative. This initiative addresses the right issue and is incompatible with TRA's regulatory view expressed in Market 12.

Box 3.11 Q.1 Is the 3-criteria-test met?

2.98 Omantel does not agree that the 3-criteria-test is met. The 3-criteria-test is endogenous. If TRA decides to regulate at cost, then no competition will emerge due to a lack of investment incentives and the test appears satisfied.

Box 4.11 Q.1 Is Omantel singly dominant?

2.99 Omantel does not agree with the premise of the market definition and the 3-criteria-test.

Box 4.11 Q.2 Dominance regarding other infrastructure assets

2.100 In Omantel's view, the TRA approach is fundamentally flawed. Cost based access to infrastructure might appear attractive but is harmful, in particular in the case of Oman, in the longer term when network are upgraded and facilities based competition arises. Point (c) and (d) on page 139 of the Consultation illustrate the complex nature of access regulation in practice and therefore support Omantel's view that significant regulatory and management resources would be required to establish a ULL regime.

Box 5.9 Q. 1/2/3 Harm to competition and appropriateness of TRA remedies

2.101 In the section on remedies,[18] TRA briefly discusses the issue of investment and network upgrades to NGA.[19] TRA also explicitly recognises the problem of network upgrades for locations in which local loops are unbundled. However, it views the issues from an incorrect angle:

- Against all evidence, TRA believes that its current decisions have no bearing on network upgrades. This is incorrect.
- TRA notes that issues of upgrades at locations with ULL would need to involve periods of notice and other procedures as established in other countries, without recognising that these procedures damage the roll-out of new technologies.

2.102 Omantel is particularly surprised by the emulation of European cost based ULL access policies since Oman has had reasonable success in attracting a facilities based competitor nationwide.

2.103 TRA should reject the proposed remedies as these disproportionate to the benefit that would be gained for Oman, and as these equally as wasteful for managerial and regulatory resources and as harmful for the future of Oman's communications networks and internet access policy.

2.104 Omantel notes that the list provided by TRA on page 209 describes in some more detail the various regulatory decisions that would need to be taken, which again reinforces Omantel's view that the establishment of ULL would require significant resources.

Market 13: Wholesale broadband access (bitstream)

Summary of TRA's reasoning:

- The market is national and defined separately from ULL. TRA notes that it could be a "stepping stone" to ULL. It includes all types of bitstream services that lead to a handover to the access seeker at an ATM or Ethernet switch or at one or more points in the IP network of the provider.
- The 3-criteria-test is met and the market is susceptible to ex-ante regulation. There are only two providers, one of which has only recently started operating a fixed wireless access network (Nawras). Class I licenses are required to operate in the market. Entry barriers are high.

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[18] Also before in the dominance assessment, Consultation, p. 138

[19] Consultation, p. 208

- There is no evidence of any activity other than self-supply by Omantel and Nawras to their respective retail operations.
- The retail market for fixed broadband services is growing rapidly, albeit from a low base.
- Neither Omantel nor Nawras are individually dominant. Regarding joint dominance, while market shares are not symmetric and the market is growing rapidly, nevertheless there are high barriers to entry and there are only two active participants so that on balance, an assessment of joint dominance appears justified.
- Risk of harm to competition are (i) refusal to supply, (ii) discriminatory treatment, (iii) anti-competitive price discrimination, (iv) excessive pricing and (v) cross subsidisation.
- Obligations are to supply connectivity (i) at the level of concentration model (at / out of DSLAM), (ii) at layer 2 switch (ATM or Ethernet), (iii) at one or more points in the IP network of the player with SMP, and (iv) complete wholesale basis [unclear whether all services need to be supplied]. Also ancillary services such as co-location and power supply should be provided.
- Remedies are (i) non-discrimination / transparency obligations, (ii) tariff notification and approval, (iii) accounting separation and a “light handed” price control, possibly involving only a basic product, in order to not conflict with incentives to invest.

Box 2.14 Q.1 Should ULL be in the same market as bitstream

2.105 Omantel believes that, from a technical and upgrade perspective, bitstream access is more appropriate than ULL. However, Omantel also agrees with TRA that there is a problem with incentives to invest. Omantel appreciates TRA’s caution and comments on TRA’s proposed remedies below.

2.106 Regarding the inclusion of ULL, Omantel notes that both bitstream access and ULL are artificially created markets. There is no price for either ULL or bitstream since, even in an effectively competitive market, companies may well decide not to open their networks to 3rd-party-access. Therefore a SSNIP test is also a purely hypothetical construct: the only price in either Markets 10 or 12 is the regulated price.

2.107 Omantel is of the view that, should TRA find that access must be given to Omantel's network – a notion that Omantel disputes - TRA should follow the logic of the "essential facilities doctrine". That logic recognises that giving 3rd party access to assets is a significant intrusion into the economic freedom of a company. It should therefore be limited to the minimum. This means in practice that no more than one access point should be given, and that giving access does not mean that the access seeker should be treated in a way that would make its economic proposition equal to the access giver. In this way, despite giving access, the assets and incentives of the access giver are still protected.

2.108 Omantel realises that the European framework that TRA emulates has violated this principle. Omantel however also notes that Europe is falling behind in fixed broadband deployment as evidenced previously in our response.

a) Omantel's position is that, if access should be given (which Omantel opposes), it should only be given at one point in the network. For reasons spelled out above, in Oman as bistream access is preferable to ULL access.

Box 2.14 Q.2 Other issues

2.109 Omantel objects to the idea that access should be given at many points, i.e. that there should be many varieties of bitstream. This reduces the business risk of reseller-type companies but equally reduces the returns of companies that invest in infrastructure. As TRA realises itself with respect to remedies, investment incentives can be disturbed by regulated access. A proposal by TRA would be to regulate only one basic product. This restricted regulation should, in Omantel's view, be made more robust by also only defining one access point as a regulated market.

Box 3.13 Q.1 Is the 3-criteria-test met?

2.110 Since even in an effectively competitive market companies would not necessarily elicit to give access to their infrastructure, it does not appear logical to carry out a 3-criteria-test for the market. It would instead be correct to ask whether the corresponding retail market would pass the 3-criteria-test. If not, then one of the remedies could be access (as in Market 13). However, the definition of a market and a further 3-criteria-test for that market appears unwarranted and logically not well founded. This issue also leads to the confusion in TRA's document regarding retail and wholesale market indicators.

2.111 This is also the case since, even in an effectively competitive market, companies may not give access to their technology. Indeed, the patent system allows companies not to give access to their technology in exactly the circumstances that the company is not dominant in a market.

Box 4.12 Q.1/2 Are Omantel and Nawras jointly dominant?

2.112 There is much confusion in TRA's reasoning (pages 139-144) regarding whether a retail or a wholesale market is considered. This arises out of the fact that the access markets are artificial markets. Access products are remedies for perceived retail market failures rather than failures in a "wholesale market" itself. As stated above, even in an effective wholesale market, companies may choose not to give access to their technology. For example, TRA states that

> *Both Omantel and Nawras are vertically integrated operators that have the ability and the incentive to refuse to provide access to the various types of bit stream services on reasonable terms. By doing they deter entry at retail level and protect their own interests and position in the retail market.*

2.113 This analysis is correct, but points to the fact that truly TRA sees a problem in the retail market and as a solution imposes a wholesale remedy. Such a remedy is then analysed as if a wholesale market existed.

2.114 However, TRA finds that no operator is dominant in the retail broadband market (Market 4). As a logical consequence, the wholesale access remedy should not be imposed and there cannot be a finding of wholesale dominance in the associated artificial wholesale market. TRA's reasoning is inconsistent and incorrect.

Box 5.10 Q.1/2/3 Risk of harm and appropriateness of remedies

2.115 Omantel appreciates the caution adopted by TRA[20] but points out the inconsistency between no price regulation at the retail level and access regulation at a regulated price at the corresponding wholesale level. This cannot be logically right. Moreover, regulated access at a regulated price is a very significant intrusion into the economic freedom of Omantel and therefore is a strong remedy. Omantel rejects the notion that there should be price regulation in this market.

2.116 Omantel also notes that Nawras has publicly announced that it would be willing to expand its wholesale activities, now that it has a larger network. Therefore even without price regulation there may be a situation in which Nawras might be willing to become host to bitstream companies.

2.117 Omantel understands that TRA feels a need to continue to monitor the market. Omantel raises fewer objections against regulations of a monitoring nature.

Market 14: Wholesale terminating segments of leased lines

Box 2.15 Q.1 Wholesale leased line trunk and terminating segments

Currently leased lines are offered only as full circuits (originating tail end segment + trunk segment + terminating tail end segment). As per given network topology of

[20] Consultation, p. 214

Omantel, it may not be appropriate to define the trunk and terminating segments as separate markets.

Omantel is of the opinion that the two markets 14 and 15 be merged together as Wholesale Leased Line Circuits to reflect the network hierarchy currently in place in Oman.

Box 4.13 Q.1 Wholesale leased line terminating segments dominance

Omantel does not consider itself to be dominant in market 14 and 15 as Nawras has built out its network for this service.

Market 15: Wholesale trunk segments of leased lines

TRA's reasoning and remedies for these two markets is parallel.

- The terminating segment market is national and comprises lines from a customer's premises to the service provider's switching node. The trunk segment market comprises lines between the public switching nodes of the wholesale provider. Self-supply is often only a limited option and other technical options are likely to be supplied by the same company (Omantel).
- Customers are licenses telecoms providers.
- The 3-criteria-test fails and the market is susceptible to ex-ante regulation. It is unclear at this point how active Nawras will be in the wholesale market. Otherwise only Omantel has a network suitable for leased lines.
- Omantel is the single dominant provider of these services. In particular scale and scope are important in the assessment.
- Risks of harm to competition are (i) refusal to supply, (ii) discrimination against third party access seekers, (iii) anti-competitive price discrimination, (iv) excessive pricing and (v) cross-subsidisation.
- Remedies are (i) obligation to supply, (ii) non-discrimination / transparency obligations, (iii) tariff notification and approval, (iv) accounting separation and (v) price control according to "Retail minus avoidable cost". A reference access offer must be prepared detailing service level agreements, clear descriptions, technical standards, key performance indicators, charges and terms. Charges must be published to third parties as well as Omantel's own retail division to avoid discrimination.

Box 2.16 Q.1 Wholesale leased line trunk and terminating segments

Currently leased lines are offered only as full circuits basis (originating tail end segment + trunk segment + terminating tail end segment). As per given network topology of Omantel, it may not be appropriate to define the trunk and terminating segments as separate markets.

Omantel is of the opinion that the two markets 14 and 15 be merged together as Wholesale Leased Line Circuits to reflect the network hierarchy currently in place in Oman.

Box 4.14 Q.1 Wholesale leased line trunk segments dominance

Omantel does not consider itself to be dominant in market 14 and 15 as Nawras has built out its network for this service.

Market 16: Wholesale international capacity (bandwidth)

Summary of TRA's reasoning:

- The service in this market is wholesale access to bandwidth for connectivity with other networks outside Oman.
- The market is national (national points of connection) and customers are other licensed service providers.
- The 3-criteria-test is met and the market is susceptible to ex-ante regulation. There are three licensees, Omantel, Nawras and Samatel, of which Omantel is active and Nawras has entered with a cable service to Mumbai as participant in the Tata II cable. As yet, competition from Nawras has not developed and it remains unclear whether such competition will be sufficiently effective.
- Omantel has exclusive capacity on TWA-1, FLAG Falcon, MENA, EIG cables, while Nawras has a deal to connect to the Tata Global Network – Gulf in Oman. Omantel and Nawras have 100% of capacity. Costs of contracts are high. Scale advantages are high. Potential competition from Samatel is restricted.
- Omantel and Nawras are jointly dominant in this market.
- Risks of harm to competition are (i) refusal to supply, (ii) discrimination in the provision of access services to external access seekers in favour of integrated retail arms, (iii) anti-competitive price discrimination, (iv) excessive pricing and (v) cross subsidisation from wholesale service revenues to retail costs.
- Regulatory remedies are (i) obligation to supply, (ii) non-discrimination and transparency obligations, (iii) tariff notification and approval, (iv) price control based on costs justified by Omantel and Nawras and (v) accounting separation.

Box 2.17 Q.1 Appropriateness of market definition

2.118 In contrast to Markets 14 & 15, the definition of this market is less artificial. Mobile resellers (Friendi, Renna, Injaz and Samatel) may all wish to negotiate separate contracts for their international rates. There is therefore true demand for such a product. Samatel's acquisition of a license shows that it is possible to enter into this market as self-supply.

Box 3.16 Q.1 Is the 3-criteria-test met?

2.119 The entry of Nawras and now also Samatel proves that this market does not have insurmountable barriers to entry. When terms cannot be negotiated to the satisfaction of a customer, it is possible to enter into the market to provide self-supply.

2.120 The change in the competitive landscape provided by Nawras' entry and Samatel's license must be reflected in the regulations, whether in the 3-criteria-test, in the assessment of dominance or in the regulations.

Box 4.15 Q.1 Are Omantel and Nawras jointly dominant?

2.121 Omantel notes that TRA's finding of joint dominance is based on TRA's own definition of "possibility to coordinate" without a proof that such coordination occurs. Omantel objects to the use of joint dominance in this way.

Box 5.12 Q.1/2/3 Risk of harm and appropriateness of remedies

2.122 Omantel reiterates its comment that the entry of Nawras and the potential entry of Samatel into the market must mean that regulations are reduced from prior to 2011. Omantel appreciates TRA's careful wording regarding its proposed price control. TRA states:

2.123 It is inappropriate for the TRA to specify a cost or price principle that should apply to wholesale international capacity prices. It will be a matter for Omantel or Nawras to justify proposed changes to terms and conditions and to provide, where appropriate, a cost justification based on the terms of supply to which it is subject in the international market.

2.124 Omantel opposes the notion that there should be price regulation in the market. However, in Omantel's view, TRA's price regulation requirement is similar in nature to the "tariff notification and approval" remedy.

Market 18: Wholesale access and call origination on public mobile telephone networks

Summary of TRA's reasoning:

- The market is for Class II provider access to Class I networks for voice and data services. The market is defined well since Class II providers cannot substitute to becoming a Class I provider easily.
- The market is national.

- The 3-criteria-test is met and the market is susceptible to ex-ante regulation. There are high barriers to becoming a Class I provider due to high investments required and a high license requirements / lack of license tendering. Mobile resellers cannot switch easily between Nawras and Omantel and have limited negotiating power due to their small retail customer base. Ex-post competition policy is insufficient due to a risk of refusal to supply.
- Omantel and Nawras have joint dominance in this market. While there is no evidence of collusion, the potential for collusion is present through the ability and incentive to collude. TRA also notes that Class II licenses are restricted to pure wholesalers without any infrastructure so that negotiating positions are weak.
- Risks of harm to competition are (i) refusal to supply, (ii) undue discrimination via discriminatory treatment in the provision of access services, (iii) excessive pricing and (vi) anti-competitive price discrimination.
- Remedies imposed should be (i) access to mobile call services, including carrier selection, carrier pre-selection, a reference offer, (ii) non-discrimination and transparency, (iii) cost based regulation probably on a LRIC+ standard, (iv) amendment of contracts to comply with requirements of fairness and non-exclusivity, (v) accounting separation.

Box 2.19 Q.1 Appropriateness of market definition

2.125 In contrast to other markets in the consultation, the wholesale mobile origination market is not hypothetical. The demand side consists of Class II resellers.

2.126 Omantel notes that there is an error in TRA's reasoning regarding the hypothetical monopoly test. TRA argues that a Class II reseller cannot switch Class I resellers easily. This is not a correct question within the "hypothetical monopoly test" but should be asked at a later stage in the market evaluation process.

2.127 Omantel also notes that the market is not well defined technically. There are many potential types of resale or mobile virtual network operator. Omantel believes that there must be consistency between the different parts of the overall regulatory framework. Currently, as TRA states itself, *"The [Class II] licensee activities shall not include the right to own, operate, manage or control the following:*

Radio network

Switches

Transmission facilities

MSC, SMSC, MMSC

HLR

International gateway"

2.128 Omantel submits that a market definition should use the existing licensee terms. In this way, a real rather than a hypothetical market can be defined.

Box 3.18 Q.1 Is the 3-criteria-test met?

2.129 There are currently two class I licensees with a mobile license that class II licensees can negotiate with. Whether this market would be active without regulation is unclear. Omantel believes however that subscriber numbers are sufficiently high so that the market can be regulated with ex-post competition law. Resellers have more than 600,000 subscribers. Both Omantel and Nawras have incentives to host traffic for such a large number of subscribers. For this reason, it is likely that the existing resellers are in a strong negotiating position vis-à-vis Omantel and Nawras.

Box 4.17 Q.1 Are Omantel and Nawras jointly dominant?

2.130 Omantel disagrees that Omantel and Nawras are jointly dominant since resellers have reached a sufficient size and have a sufficient number of subscribers to have countervailing buyer power.

Box 5.14 Q.1/2/3 Risk of harm and appropriateness of remedies

2.131 Omantel notes that resellers are gaining market share and therefore believes that no additional stricter regulation would be justified. Omantel thinks that the additional regulations proposed on page 230, letter (c) are unjustified.

2.132 Omantel notes in particular what is commonly termed "regulatory creep". An initial regulation is introduced. Some operators are successful while others fail, as in most businesses. Yet in this case the lack of regulation is made responsible for the failure of some businesses, while the market as a whole is winning. The failing firms convince the regulator that more regulation is required.

2.133 In Omantel's view, this is unreasonable and does not correspond to best regulatory practice.

2.134 TRA may wish to introduce carrier selection / pre-selection for mobile resellers. At the same time, TRA wishes to impose cost based contracts for these resellers. This would effectively mean that TRA regulates retail prices down to cost. This regulation is excessive. It more than duplicates mobile retail regulation. And the regulation is carried out in a market which has a penetration rate of 170% and a continued growth rate for both Class I and Class II operators.

2.135 Omantel rejects all additional regulations as unfounded and disproportionate. Instead, Omantel believes that access regulation can be abolished, while, at the same, time Class II licenses could be allowed to operate more infrastructure. In this way, Class II licenses would incur larger risks, but be more independent of Class I licensees. By virtue of their customer numbers, Class II licenses should be able to find a Class I licensee who would be willing to host them.

Box 5.15 Q.1/2/3 Transition to a "cost based arrangement"

2.136 As indicated above, Omantel believes that the market is ready for deregulation. A cost based arrangement would not provide for such deregulation. On the contrary, Omantel believes that cost based regulation is stricter, which is not justifiable given the gain in market share experienced by mobile resellers.

2.137 TRA states itself:

> *With cost oriented prices, dominant operators are allowed to make a normal profit without restricting the service providers' ability to compete in the retail markets.*

2.138 Omantel doubts that it is possible for TRA to compute what a "normal profit" should be for Omantel. TRA should also not decide on such an indicator. Omantel is strictly against increasing the regulation in a successful market.

Market 19: wholesale national roaming services

Summary of TRA's reasoning

- National roaming would be a transient request given that Class I licenses require own infrastructure build-out. The service would be for roaming in an area that is not served. A SSNIP test might fail since build-out is an alternative. Customers are other Class I mobile providers.
- The 3-criteria-test fails and the market is not susceptible to ex-ante regulation. There does not appear to be demand for such a service and Class I licenses require national coverage.

Box 2.20 Q.1/2 Should a market for national roaming be defined

2.139 Omantel does not agree that a national roaming market should be defined. Nawras has a comparable market share to Omantel and does not require national roaming. In case a 3rd operator will be licensed, the question of national roaming may arise, but it would be tied together with questions regarding the distribution of spectrum, and other regulatory issues. Therefore Omantel believes that it is better to refrain at this point from the definition of such a market.

Box 3.19 Q.1 Does the 3-criteria-test fail?

2.140 Omantel believes that there is no meaning in carrying out a 3-criteria-test for this market.

Market 20: wholesale transit

Summary of TRA's reasoning:

- The service in this market is for wholesale conveyance of traffic between points of interconnection of other service providers. The service is similar to leased lines, but is charged by volume of traffic instead.
- The market is national and customers would be other Class I licensed service providers.
- The 3-criteria-test is met and the market is susceptible to ex-ante regulation. There are only two Class I operators active [but demand is also from Class I operators?] and it is unclear at this point whether they would be in competition to each other.
- The market is not existent at the moment since there is no demand by either Class I operator. Rather there is self-provisioning. For this reason, there is no single or joint dominance.

Box 2.21 Q.2 Is there a need to define such a market?

2.141 In Omantel's view, there is no need for the definition of such a market. By evidence of Nawras' success, an obligation to interconnect between Omantel and Nawras is a sufficient regulatory tool.

2.142 Omantel and Nawras and other Class I providers should they be licensed can negotiate precise terms of interconnection on a commercial basis.

2.143 Moreover, whether this market comes into existence also depends on the nature of further Class I licenses. For example, such licenses may stipulate a minimum number of interconnection points (or maximum interconnection traffic at a node) such that the transit issue would not arise.

Box 2.21 Q.1 Is the 3-criteria-test met?

2.144 Omantel does not believe that this market should be defined.

Box 4.18 Q.1 Is no operator dominant in this market?

2.145 The concept of dominance requires customers, yet there are no customers in this market. Omantel also believes that any disputes between a new entrant and existing Class I licensees can be dealt with by ex-post competition rules.