



**PAKISTAN TELECOMMUNICATION AUTHORITY**  
**Headquarters, F-5/1 Islamabad**  
[www.pta.gov.pk](http://www.pta.gov.pk)

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**CONSULTATION PAPER ON**  
**IDENTIFICATION OF RELEVANT MARKETS,**  
**SIGNIFICANT MARKET POWER OPERATORS AND THEIR OBLIGATIONS**

*This Paper intends to seek opinion of all stakeholders including telecom operators and general public. The stakeholders are requested provide their comments, preferably through e-mail, latest by 28<sup>th</sup> August 2006. This Paper does not convey, in any sense, any decision of the Authority in respect of the issues discussed in this Paper.*

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**1. INTRODUCTION**

(1) The Pakistan Telecommunication Authority was established under section 3 of the Pakistan Telecommunication (Re-organization) Act 1996 (Amended 2006), with the objective to regulate the establishment, operation and maintenance of telecommunication systems and the provision of telecommunication services in Pakistan. Under section 4(d) and 6(e) of the Act, the Authority is required to promote the availability of competitive telecommunication services throughout Pakistan and to encourage fair competition in the telecommunication sector.

(2) In order to promote fair competition in the sector, it is essential that operators with Significant Market Power (SMP) status should be identified as such, with respect to each relevant market and then necessary obligations should be placed on these operators to prohibit them from abusing their dominant positions through anti-competitive practices.

(3) The Pakistan Telecommunications Rules, 2000 has laid down the criteria that empowers the Authority to determine operators who have SMP status in the relevant markets. Rule 17 of these Rules states as follows:

“17.— (1) An operator shall be presumed to have significant market power when it has a share of more than twenty-five percent of a particular telecommunication market. The relevant market for these purposes shall be based on sectoral revenues.

(2) The Authority may, notwithstanding sub-rule (1), determine that an operator with a market share of less than twenty-five per cent of the relevant market has significant market power. It may also determine that an operator with a market share of more than twenty-five per cent of the relevant market does not have significant market power. In each case, the Authority shall take into account the operator’s ability to influence market conditions, its turnover relative to size of the relevant market, its control of the means of access to customers, its access to financial resources and its experience in providing telecommunication services and products in the relevant market.”

(4) In this regard, the Authority declared the following relevant markets along with the operators who have SMP status in these markets, vide its Determination No. 15-46/01(Tariff)/PTA dated 25<sup>th</sup> August 2004:

| S. No. | Relevant Markets                         |                     | SMP Operators |
|--------|--|---------------------|---------------|
|        | Product / Service Market                 | Geographical Market |               |
| 1.     | Local Loop Fixed Line Telecommunications | All Telecom Regions | PTCL          |
| 2.     | Local Loop Fixed Line Telecommunications | AJK & NAs           | SCO           |
| 3.     | LDI Fixed-Line Telecommunications        | Pakistan            | PTCL          |
| 4.     | LDI Fixed-Line Telecommunications        | AJK & NAs           | SCO           |
| 5.     | Leased Lines                             | Pakistan            | PTCL          |
| 6.     | Mobile Cellular Telecommunications       | Pakistan            | PMCL          |
| 7.     | Mobile Cellular Telecommunication        | AJK & NAs           | SCO           |
| 8.     | National Interconnection                 | Pakistan            | PTCL & PMCL   |

(5) Since the issuance of said Determination, the telecommunication market has changed considerably regarding its size, scope, diversity and dynamics. Keeping this in view, the Authority considers it necessary to conduct the market analysis, in consultation

with all stakeholders, to ensure that regulations remain appropriate in the light of changing market conditions. This Paper reviews the already defined markets for the purpose of declaring SMP operators. It also discusses the declaration, or otherwise, of few other possible markets along with the criteria and methodology to be used for determination of operators with SMP status. References have also been made to the international best practices on the subject issue.

(6) As far as the obligations of SMP operators are concerned; the Telecom Rules 2000, Fixed-line Tariff Regulations 2004, the Interconnection Guidelines 2004, the Deregulation Policy, Mobile Policy etc. have identified certain obligations of SMP operators. These include tariff regulations, provision of cost-based interconnect rates, publication of Reference Interconnect Offer (RIO), provision of carrier selection to customers, prohibition of anti-competitive conduct etc. However, the Authority felt that it would be more appropriate to chalk out the obligations of SMP operators at one place for the purpose of clarity. Moreover, it is also felt necessary that these obligations should be placed with respect to each of the identified relevant market.

## **2. REVIEW OF EXISTING IDENTIFIED RELEVANT MARKETS**

(1) The entire telecom market of Pakistan (including AJK & NAs) can be divided into different relevant markets on the basis of (i) geographical area and (ii) products/services offered in that particular market segment. Geographic market may continue to be based on the area where an operator is authorized to operate under its respective license. Regarding product/service markets, the Authority first reviews the following already identified five (5) relevant markets (broadly categorized under retail level and wholesale level markets) as to whether these markets should continue to be identified as relevant markets for the purpose of declaring SMP operators:

| <b>S. No.</b>                       | <b>Product / Service Market</b>                 |
|-------------------------------------|---|
| <b><i>Retail Level Markets:</i></b> |   |
| 1.                                  | Local Loop Fixed Line Telecommunications Market |
| 2.                                  | LDI Fixed-Line Telecommunications Market        |
| 3.                                  | Mobile Cellular Telecommunications Market       |

| S. No.                          | Product / Service Market        |
|---------------------------------|---------------------------------|
| <i>Wholesale Level Markets:</i> |                                 |
| 4.                              | Leased Lines Market             |
| 5.                              | National Interconnection Market |

***Retail Level Markets:***

**(i) Local Loop Fixed-line Telecommunications Market**

(2) Local Loop Fixed-line Telecommunications Market includes provision of access and call services to end-users (whether through PSTN or WLL) in the Region for which the Local Loop license has been granted by the Authority. Geographically, this product/service market can be further sub-divided into fourteen (14) Regions in Pakistan and (currently) one geographical market in AJK & NAs.

(3) The Authority observed that new entrants have emerged in this segment, especially in WLL. However, lack of competition has been observed in this area as business volume of new entrants is very low as compared to PTCL. Keeping this in consideration, the Authority is of the view that this market should continue to be identified as relevant market for the purpose of declaring SMP operators. The market for AJK & NAs holds the similar characteristics, as currently SCO is the only operator providing such services to the end users.

(4) For the purpose of determining the total market size and the market share of a particular operator in Local Loop Fixed-line Telecommunication Market, only the revenues from the provisions of licensed Local Loop telecommunication services (including WLL) to the subscribers shall be taken into account. Such revenues may include installation/shifting charges, line rental, call charges, etc. For the avoidance of doubt, interconnection revenues from call termination services shall not be included in the total revenue base.

**(ii) LDI Fixed-line Telecommunications Market**

(5) LDI Fixed-line Telecommunications Market includes provision of long distance and international call services on national basis to end-users. Geographically, this

product/service market can be further sub-divided into two (2) markets; Pakistan and AJK & NAs markets.

(6) The Authority vide its above-referred Determination declared PTCL and SCO as SMP operators in Pakistan and AJK & NAs respectively. With the entrance of new LDI operators in Pakistan market, considerable competition has been experienced from new LDIs, especially in calling cards segment. However, keeping in view the criteria for measuring the market size for determining SMP, it is expected that still more than 25% of market share belongs to already declared SMP operators. The Authority, therefore, intends to identify this market as relevant market for the purpose of declaring SMP operators. In AJK & NAs, currently the market is not yet opened for this segment and there exists a monopoly of SCO. For this reason, SCO should continue to be declared as SMP operator in this market.

(7) For the purpose of determining the total market size and the market share of a particular operator in LDI Fixed-line Telecommunication Market, only the revenues from the provisions of licensed LDI telecommunication services shall be taken into account. Such revenues may include call charges for long distance and international outgoing calls, whether collected from the customers directly or from other operators (excluding call transit charges). Revenues generated from calling cards shall also be considered while assessing the market share. However, revenues from international incoming calls shall not be included in the total revenue base.

**(iii) Mobile Cellular Telecommunications Market**

(8) Mobile Cellular Telecommunications Market includes provision of wireless-based telecommunication services (other than WLL) on national basis. This product/service market can be further sub-divided into two (2) geographic markets; Pakistan and AJK & NAs markets.

(9) Previously, the Authority declared PMCL as SMP operator in mobile telecommunication market of Pakistan. The market, with total of six operators, is moving towards competition. However, it is expected that PMCL still holds majority share of this market. The Authority is of the view that the segment is in the state of partial competition

and thus should be identified as relevant market for the purpose of declaring SMP operators. Regarding AJK & NAs, four new mobile licenses have been awarded to existing mobile operators of Pakistan i.e. PMCL, PTML, Warid Telecom and Telenor. However, as the new operators have recently started their operations in AJK & NAs, it is likely that SCO still has majority share in mobile segment of AJK & NAs. Therefore, this market should be declared as relevant market for the purpose of determining SMP operators.

(10) For the purpose of determining the total market size and the market share of a particular operator in Mobile Cellular Telecommunications Market, only the revenues from the provisions of licensed mobile telecommunication services to subscribers shall be taken into account. Such revenues may include line rental, outgoing airtime, roaming charges, revenue from data services, etc.

***Wholesale Level Markets:***

**(iv) Leased Lines Market**

(11) Leased Lines Market includes provision of domestic and international leased circuits to other telecom operators. This product/service market can be further subdivided into two (2) geographic markets; Pakistan and AJK & NAs markets.

(12) The Authority is of the view that this market is not fully competitive at this stage due to limited number of service providers. Hence, it should be identified as a relevant market for the purpose of declaring SMP operators.

(13) For the purpose of determining the total market size and the market share of a particular operator in Leased Lines Market, only the revenues raised by the operator from the provisions of leased lines (domestic as well as international) services shall be taken into account. For the purpose of clarification, only the revenues from the original rental or sale by the operator, and not the revenues from reselling of leased lines shall be considered.

**(v) National Interconnection Market**

(14) The Authority, vide its Determination No. 15-46/01(Tariff)/PTA dated 25<sup>th</sup> August 2004, identified National Interconnect Market as a relevant market for the purpose of declaring SMP operators and declared PTCL and PMCL as SMP operators in this market. National Interconnect Market includes provision of call termination services to all operators, whether fixed or mobile, for local, national and international calls that terminate in the territory of Pakistan. Keeping in view the changing dynamics of telecommunication market, the Authority is of the view that there is a need to identify further relevant markets (discussed in Section 3 of this Paper) within the National Interconnection Market, in accordance with the international best practices, so that suitable obligations can be placed on SMP operators in each relevant market. Therefore, the National Interconnection Market is suggested to be withdrawn as relevant market for the purpose of declaring SMP operators.

**3. POSSIBLE NEW RELEVANT MARKETS**

(1) The Authority considers that following additional markets can be evaluated for the purpose of declaring SMP operators:

***Retail Level Markets:***

- (i) Retail Broadband Market
- (ii) Payphone Market
- (iii) Internet Market

***Wholesale Level Markets:***

- (iv) National Fixed Interconnect Market
- (v) Individual Fixed Interconnect Market
- (vi) National Mobile Interconnect Market
- (vii) Individual Mobile Interconnect Market
- (viii) Call Transit Services Market
- (ix) Wholesale Broadband Access Market

***Retail Level Markets:***

**(i) Retail Broadband Market**

(2) Broadband services involve the provision of always-on internet connection with a download speed of at least 128kbps connectivity. The broadband services are provided to

end-users by means of various technologies, the most common technology in Pakistan is DSL, which make use of the fixed telephone network.

(3) The broadband market of Pakistan is not yet developed to the extent as that of its neighboring countries and European markets. In current market scenario, despite the fact that a company may hold a market share of more than 25 %, the total market size is not significant where a single operator can dominate this market. The Authority is of the view that declaration of SMP operators in this market at this stage may hamper the penetration of broadband in the country. Therefore, this market should not be declared at this stage as a relevant market.

**(ii) Payphone Market**

(4) The Authority has often been approached by small payphone operators complaining that some of the big payphone operators have squeezed their margins by offering very low tariffs in the market, jeopardizing their businesses and making it difficult for them to survive. However, it has been noticed that this market consists of large number of operators and is fairly competitive, with no individual operator has more than 25% of the market share. The Authority believes that the presence of competition in a market generally leads to reduction in price as well as profit margin and some operators may be subject to liquidation/mergers. Keeping this in consideration, the Authority is of the view that this market should not be identified as a relevant market for the purpose of declaring SMP operators.

**(iii) Internet Market**

(5) A few ISPs have shown their concerns on tariff policies of big ISPs, claiming that their tariffs are below cost. They requested the Authority to declare such operators as SMP operators and prohibit them from using such practices. However, it has been observed that this market is in the state of full competition in Pakistan, with no barriers to entry. The Authority noticed that none of the ISPs holds more than twenty five percent (25%) share of the market. Keeping in view the above, the Authority views this segment as fully competitive and, therefore, this market should not be identified as relevant market for the purpose of declaring SMP operators.

***Wholesale Level Markets:***

**(iv) National Fixed Interconnect Market**

(6) National Fixed Interconnect Market includes provision of call termination services by all LL operators (PSTN or WLL) for local, long distance, and/or international calls. This product/service market can be further sub-divided into two (2) geographic markets; Pakistan and AJK & NAs markets.

(7) The Authority vide its Determination No. 15-46/04(Tariff)/PTA dated 25<sup>th</sup> August 2004 declared PTCL as SMP operator in National Interconnect Market. Due to limited number of LL (including WLL) connections by new entrants, and considering the current dominance of one (or may be two) networks over this market, the Authority is of the view that this market should be identified as a relevant market for the purpose of declaring SMP operators.

(8) For the purpose of determining the total market size and the market share of a particular operator in the National Fixed Interconnection Market, revenues from call termination of all types of calls, (local, long distance and/or international from fixed as well as mobile networks) that terminate on fixed telephone network shall be taken into account. The calculation shall include the revenues generated from termination of interconnection traffic received from other networks and a value for self-terminated own-network traffic. The value for self-terminated own-network shall be calculated by multiplying the number of call-minutes terminated on the network by the relevant interconnection charge for call termination i.e. metropolitan termination charge. It may be noted that the interconnection revenue shall not include the excess of Access Promotion Contribution over the termination charge received by LL operator on international incoming traffic.

**(v) Individual Fixed Interconnect Market**

(9) Individual Fixed Interconnect Market includes provision of call termination services by a given individual LL operator (PSTN or WLL) for local, long distance, and/or international calls.

(10) The Authority is of the view that there is virtually no competition in this market due to the fact that call termination service cannot be provided by any other operator but the owner of the called network and, in this context, each LL operator has monopoly (100% market share) on termination of calls to customers connected to its own network. Therefore, this market should be identified as relevant market for the purpose of declaring SMP operators and each of the LL operators should be determined as SMP operator in this market.

**(vi) National Mobile Interconnect Market**

(11) National Mobile Interconnection Market includes provision of call termination services by all mobile operators for local, long distance, and/or international calls. This product/service market can be further sub-divided into two (2) geographic markets; Pakistan and AJK & NAs.

(12) The Authority vide its Determination No. 15-46/04(Tariff)/PTA dated 25<sup>th</sup> August 2004 declared Mobilink as SMP in National Interconnect Market. The Authority views this segment as having partial competition and this market should be identified as a relevant market for the purpose of declaring SMP operators.

(13) For the purpose of determining the total market size and the market share of a particular operator in the National Mobile Interconnect Market, revenues from call termination of all types of calls, (local, long distance and/or international from fixed and mobile networks) that terminate on mobile telephone network shall be taken into account. The calculation shall include the revenues generated from termination of interconnection traffic received from other networks and a value for self-terminated own-network traffic. The value for self-terminated own-network shall be calculated by multiplying the number of call-minutes terminated on the network by the mobile termination charges.

**(vii) Individual Mobile Interconnect Market**

(14) Individual Mobile Interconnect Market includes provision of call termination service by a given mobile operator to other telecom operators for local, long distance, and/or international calls.

(15) The Authority is of the view that there is virtually no competition in this market due to the fact that call termination service cannot be provided by any other operator but the owner of the called network and, in this context, each mobile operator has a monopoly (100% market share) on termination of calls to customers connected to its own network. Therefore, this market should be identified as relevant market for the purpose of declaring SMP operators and each of the mobile operator should be determined as SMP operator in this market.

**(viii) Call Transit Services Market**

(16) Interconnection always comprises of call origination and call termination as well as transit traffic, when traffic is carried through the network of a third party. Call transit service means transmission of switched voice service originating from another telecom network. This includes transmission of traffic through the network of a third party both inside a Telecom Region (i.e. Metropolitan Transit) and between Telecom Regions. A third party means a network operator that conveys switched voice services, which does not originate from or terminate on this operator's network.

(17) In Pakistan, although there are several LDI operators throughout all Telecom Regions, in most cases they have not directly interconnected their networks with other operators due to practical, technical or economic reasons. On the other hand, the Incumbent Operator (PTCL) is interconnected with almost all telecom operators. In this scenario, if an operator wants to provide voice transmission services within a Telecom Region or between Telecom Regions by means of transit services, it must acquire the transit services from PTCL. Considering the current dominance of PTCL over this market, the Authority is of the view that this market should be declared as relevant market for the purpose of declaring SMP operators.

(18) For the purpose of determining the total market size and the market share, revenues generated from the provisions of call transit services to other operators shall be taken into consideration.

**(ix) Wholesale Broadband Access Market**

(19) Wholesale broadband access is composed of the wholesale broadband service provided by the network operator to the broadband service operator. Wholesale broadband access service (also known as local loop transmission capacity) means provision of network access service to broadband service providers, through technical equipment (e.g. splitter and DSLAM), that enhances the throughput capacity. Alternatively, Optical Fiber Access Networks (OFAN) may also be used for the enhanced transmission capacity.

(20) PTCL, in spite of deregulation in the sector, enjoys a considerable competitive advantage in the provision of network access services to other networks. It is not desirable to build several parallel networks, as it is not economically feasible due to high costs and long construction time. Therefore, operators wishing to have access to wholesale broadband networks do not have other alternatives but to lease the same from PTCL. Keeping this in view the Authority intends to identify this market for the purpose of declaring the SMP operators.

(21) For the purpose of determining the total market size and the market share, revenues generated from the provisions of access services to broadband service providers shall be taken into consideration.

(22) In view of the above, the Authority intends to identify the following markets for the purpose of declaring SMP operators:

| S. No.                              | Relevant Markets                           |  |
|-------------------------------------|--|--|
|                                     | Product / Service Market                   | Geographical Market                          |
| <b><i>Retail Level Markets:</i></b> |  |  |
| 1.                                  | Fixed Local Loop Telecommunications Market | (i) 14 Regions of Pakistan<br>(ii) AJK & NAs |
| 2.                                  | Fixed LDI Telecommunications Market        | (i) Pakistan<br>(ii) AJK & NAs               |
| 3.                                  | Mobile Telecommunications Market           | (i) Pakistan<br>(ii) AJK & NAs               |

| S. No.                          | Relevant Markets                      |  |
|---------------------------------|---------------------------------------|--|
|                                 | Product / Service Market              | Geographical Market                          |
| <i>Wholesale Level Markets:</i> |                                       |  |
| 4.                              | National Fixed Interconnect Market    | (i) Pakistan<br>(ii) AJK & NAs               |
| 5.                              | Individual Fixed Interconnect Market  | (i) 14 Regions of Pakistan<br>(ii) AJK & NAs |
| 6.                              | National Mobile Interconnect Market   | (i) Pakistan<br>(ii) AJK & NAs               |
| 7.                              | Individual Mobile Interconnect Market | (i) Pakistan<br>(ii) AJK & NAs               |
| 8.                              | Call Transit Services Market          | (i) Pakistan<br>(ii) AJK & NAs               |
| 9.                              | Leased Lines Market                   | (i) Pakistan<br>(ii) AJK & NAs               |
| 10.                             | Wholesale Broadband Access Market     | (i) Pakistan<br>(ii) AJK & NAs               |

#### **4. CRITERIA FOR DETERMINING SMP OPERATORS**

(1) Regarding the criteria used for determining SMP operators, the Rules have given the primary criteria i.e. share of more than twenty-five per cent (25%) of a particular telecommunication market in terms of revenues. The Rules have also provided other measures, on the basis of which the Authority may determine that an operator with a market share of less than twenty-five per cent (25%) of the relevant market has significant market power, or the operator with a market share of more than twenty-five per cent (25%) of the relevant market does not have significant market power. The Authority intends to use the primary criteria for SMP determination.

#### **5. PROVISION OF INFORMATION**

(1) The Authority is empowered under the Act to collect information from the licensees for the purpose of carrying out its functions. In order to calculate the total market size and individual market share of each operator in the identified relevant markets, all telecom operators are required to provide information to the Authority in the

format/report, as set out in Annexes of this Paper. The time period covered by such reports can be either the financial year of each operator or a standard time period (irrespective of financial year of operator).

(2) The Authority is of the view that for the purpose of comparability and objectivity, the reports from all operators should cover the same period. Therefore, the operators should provide the required information to the Authority, duly certified by their auditors, covering period from 1<sup>st</sup> July of a year (i.e. 2005) to 30<sup>th</sup> June of the following year (i.e. 2006). The information shall be provided to the Authority within fifteen (15) days from the date of issuance of this Paper.

## **6. OBLIGATIONS ON SMP OPERATORS**

(1) The Authority intends to impose necessary obligations on SMP operators in order to eliminate barriers to fair competition in each of the identified relevant market. In this respect, references have been made to regulatory practices prevalent in other countries. Following are the obligations, which the Authority has identified to be imposed on operators with SMP status in different relevant markets:

### **(i) Access to Interconnect**

(2) The Authority is of the view that it is in the interest of both users and service providers that any-to-any connectivity is established among telecom networks. In this regard, Rule 13 of the Pakistan Telecom Rules 2000, placed the obligation on each telecom operator to provide interconnection to other licensed operators on their request. Therefore, the SMP operator shall be obliged to meet all reasonable requests of other licensed operators for interconnection to its network within the time frame prescribed in the Rules. Any refusal in providing access or delaying tactics in meeting requests for interconnection represents potential competition problems which must be avoided through regulatory intervention for promoting fair competition in the sector.

### **(ii) Non-Discrimination**

(3) An SMP operator should provide its services, both at retail and wholesale level, to other users/operators on the same terms and conditions, without any discrimination, unless justified on the basis of cost. In retail segment, the SMP operator should not

unduly discriminate between its own users and users of other telecom operators in terms of accessibility, including, but not limited to, the level of charges as well as other terms and conditions. In wholesale segment, the SMP operator should be obliged to provide interconnection on same terms and conditions to all requesting operators providing similar services. Moreover, it should also provide interconnection to other operators on same terms as it does for its own services, business, subsidiaries or affiliates.

**(iii) Carrier Selection**

(4) In order to promote fair competition in the long distance and international market, the operator with SMP status in the call originating segment should allow its subscribers the right to choose any LDI operator of his choice to make long distance and international calls. For this purpose, it will provide call-by-call carrier selection facility and carrier pre-selection facility to its subscribers. However, the operator having SMP status in Mobile Telecommunications Market should be obliged to offer call-by-call carrier selection facility and carrier pre-selection facility to its subscribers for international outgoing calls, as the same cannot be provided under its own license.

**(iv) Tariff Regulation**

(5) The Authority intends to reduce the regulatory obligations on operators as the markets become more competitive. On the same principle, the Authority would regulate the tariffs of SMP operators and will only intervene in the tariffs of non-SMP operators when the circumstances demand corrective regulatory measures. In this regard, the tariffs of LL and LDI operators, who have SMP status, will continue to be governed by the price-cap mechanism, as given in the 'Fixed-line Tariffs Regulations 2004'. Other SMP operators shall follow the relevant regulations and determinations of the Authority.

**(v) Cost-Based Interconnection Charges**

(6) An SMP operator's interconnection charges should follow the principles of transparency and cost orientation. The Authority can ask for a justification of the proposed interconnect charges of SMP operator and may also require them to be adjusted, if necessary. The SMP operators shall follow the guidelines of the Authority regarding the methodology and approach to be used for calculation of cost-based interconnection charges. Rule 16 of the Telecom Rules 2000 also requires that interconnection charges of

an SMP operator shall be based on Long Run Incremental Cost in the manner determined by the Authority.

**(vi) Accounting Separation**

(7) The SMP operators who carry out their business on integrated basis (e.g. having license to operate in both LL and LDI segment, or Mobile and LDI segment etc.) should be obliged to provide clear visibility of the relationships between various business segments contained within their overall integrated business in order to ensure non-discrimination, transparency and cost-orientation. In particular, they should provide Separated Accounts of their activities, duly audited by an independent body to the Authority, in the form and manner laid down by the Authority for this purpose from time to time.

**(vii) Publication of Reference Interconnect Offer (RIO)**

(8) The SMP operator should be obliged to prepare and submit its RIO to the Authority for approval in accordance with the provisions of Interconnection Guidelines 2004. The RIO shall contain all terms and conditions on which the SMP operator is ready to provide interconnection services to other operators. The standard Reference Interconnect Offer ensures that interconnection facilities and services are offered by SMP operator to other operators on equal terms and conditions.

**(viii) Infrastructure Sharing**

(9) In order to promote the optimal usage of existing telecommunication infrastructure, the Authority intends to place obligation of infrastructure sharing on SMP operators. Infrastructure sharing generally refers to sharing of network facilities between one or more operators with the objective to reduce infrastructure duplication and related costs. This will not only reduce the entry barrier for new entrants but will also foster competition in the telecommunication market. In particular, the SMP operator should provide access to its ducts, poles, antennas, towers, space, co-location etc. to other telecom operators on principles of non-discrimination, equal access and cost-orientation.

(10) The Authority intends to apply the above-mentioned obligations on SMP operators in the following manner:

| <b>S. No.</b>                          | <b>Relevant Market</b>                           | <b>Obligations</b>   | <b>Information to be provided under</b> |
|--|--|--|---|
| <b><i>Retail Level Markets:</i></b>    |  |  |   |
| 1.                                     | Fixed Local Loop (LL) Telecommunication Market   | (i) Tariff Regulation<br>(ii) Carrier Selection<br>(iii) Non-Discrimination<br>(iv) Infrastructure Sharing   | Annex-I                                 |
| 2.                                     | Fixed Long Distance & International (LDI) Market | (i) Tariff Regulation<br>(ii) Non-Discrimination   | Annex-II                                |
| 3.                                     | Mobile Telecommunication Market                  | (i) Tariff Regulation<br>(ii) Carrier Selection (Only for Intl. Outgoing)<br>(iii) Non-Discrimination<br>(iv) Infrastructure Sharing                   | Annex-III                               |
| <b><i>Wholesale Level Markets:</i></b> |  |  |   |
| 4.                                     | National Fixed Interconnect Market               | (i) Access to Interconnect<br>(ii) Non-Discrimination<br>(iii) Publication of RIO<br>(iv) Cost-based Interconnect Charges<br>(v) Accounting Separation | Annex-IV                                |
| 5.                                     | Individual Fixed Interconnect Market             | (i) Access to Interconnect<br>(ii) Non-Discrimination  | NA                                      |
| 6.                                     | National Mobile Interconnect Market              | (i) Access to Interconnect<br>(ii) Non-Discrimination<br>(iii) Publication of RIO<br>(iv) Cost-based Interconnect Charges<br>(v) Accounting Separation | Annex-V                                 |
| 7.                                     | Individual Mobile Interconnect Market            | (i) Access to Interconnect<br>(ii) Non-Discrimination  | NA                                      |
| 8.                                     | Call Transit Services Market                     | (i) Access to Interconnect<br>(ii) Non-Discrimination<br>(iii) Publication of RIO<br>(iv) Cost-based Interconnect Charges                              | Annex-VI                                |
| 9.                                     | Leased Line Market                               | (i) Access to Interconnect<br>(ii) Non-Discrimination<br>(iii) Publication of RIO<br>(iv) Cost-based Charges   | Annex-VII                               |
| 10.                                    | Wholesale Broadband Access Market                | (i) Access to Interconnect<br>(ii) Non-Discrimination<br>(iii) Publication of RIO<br>(iv) Cost-based Interconnect Charges                              | Annex-VIII                              |

## **7. INTERNATIONAL SCENARIO**

### **(A) EUROPEAN UNION**

(1) The European Commission issued Guidelines to Member States on 1<sup>st</sup> March 1999 regarding the determination of organization with Significant Market Power, which provides that determination of SMP Operator by a National Regulatory Authority (NRA) shall involve the following stages:

(i) Identification of the relevant market for a specific Directive, in terms of geographical market and the product/service market;

(ii) Deciding which parameters to use for measuring the size of the market and the market share of market players;

(iii) Collection of data on the economic activity of the organizations operating in the market in order to calculate total market size and market shares; and

(iv) In case of any deviation from the presumption that organizations with more than 25% market share have significant market power, justifying such deviation on the basis of transparent criteria.

(2) The definition of the relevant market (stage i) are laid down in the specific EC Directives, but decisions about the parameters to be used to measure market shares (stage ii), or about any deviation from the 25% presumption (stage iv), are left to NRAs to settle at a national level. Nevertheless, consistency in the end result between Member States was stated to be desirable, so that organizations in similar circumstances are treated in a similar manner in all Member States, while acknowledging that circumstances may vary from one Member State to the other.

#### **(i) Identification of Relevant Markets**

(3) In both competition law and under Open Network Provision (ONP) rules, the relevant market is defined in terms of the product/service in question and the relevant geographical area. One aim of the sector-specific ONP legislation is to provide ex-ante

rules which provide legal certainty to market players. The relevant market is therefore defined in the specific ONP Directives (interconnection, voice telephony, leased lines).

(4) This differs from a competition law approach, where the relevant market is defined on a case-by-case basis in terms of the product/service in question and the relevant geographical area. It is not appropriate to apply a competition law approach to market segmentation when assessing significant market power for ONP purposes; the relevant market must be assessed on the basis of the markets identified in the specific Directives. A further consideration when examining the relevant market for ONP purposes is to take into account the nature of the obligations that the Directive places on organizations with significant market power (SMP).

(5) Significant market power is not the same as the concept of dominant position used in competition law. Significant market power is an ONP concept used to decide when an organization should be subject to specific obligations, under specific ONP Directives. An organization is presumed to have significant market power if it has more than 25% of the relevant market. Typically, organizations need to have a much greater market share than this before they are considered as having a dominant position on a market. A company may be designated as having significant market power under ONP legislation but not be considered to have a dominant position for the purposes of competition law; or a company may have a dominant position in a particular market segment but not be considered to have significant market power for ONP purposes. The major differences concern the way the relevant market is defined, and the extent of an organization's influence on that market.

**(ii) Parameters to be used for Measuring Size of the Market**

(6) Estimating market shares is about measuring activity in a market. A unit of measure is essential, and while in general there are several possible measurement parameters, the parameters chosen to determine market share should encourage competition and should not have a disproportionate or discriminatory effect on particular players.

(7) The parameters for measuring markets and market shares are not laid down in the specific EC Directives. It is for the NRA to decide the most suitable parameter to use, taking into account *inter alia* the end to be achieved, the burden on market players of providing the required data, and the need to apply the chosen method in accordance with the principles of transparency and non-discrimination. NRAs should avoid criteria that unduly distort patterns of market entry, activity or investment by market players.

(8) While the *definition* of the relevant market is in principle different under ONP legislation and competition rules, the *methods for measuring* market sizes and market shares that have been developed under competition law are applicable when measuring markets for ONP purposes. In this respect, the Commission's Notice on the definition of the relevant market for the purposes of Community competition law adopted on 8 October 1997 is relevant. In that Notice, the Commission notes that both volume sales and value sales provide useful information for market measurement; in the case of bulk products preference is given to volume, whereas in cases of differentiated products (eg branded products), sales in value and their associated market share will usually be considered to better reflect the relative position and strength of each supplier. The choice of measurement parameters are discussed further below in the context of the specific ONP Directives.

(9) In the case of newly liberalized markets, the calculation of which organizations have more than 25% market share is likely to yield the same results whatever measurement parameters are used, because none of the new entrants are likely to come close to the 25% threshold, and the incumbent will be well above that level. However, as market shares approach the 25% threshold, the choice of measurement parameter becomes more critical, and it is then more important to use parameters that are consistent with the objectives of the individual Directives.

## THE ONP LEASED LINES DIRECTIVE

### **Defining the Market for the Leased Lines Directive**

The Leased Lines Directive concerns the harmonization of conditions for open and efficient access to and use of the leased lines, and the availability throughout the Community of a minimum set of leased lines with harmonized technical characteristics. The purpose of determining significant market power is to determine which organization(s) should be subject to the provisions of the Directive, the relevant market being defined on the basis of the type(s) of leased line offered in a particular geographical area. The geographical area may be the whole or part of the territory of a Member State.

### **Parameters for Measuring the Market and Market Shares for the Purpose of Leased Lines Directive**

Measurement of the size of the leased lines market involves measuring the activities of all organizations involved in the provision of leased lines in a Member State. Leased line revenues, leased capacity, or numbers of leased line termination points are possible criteria for measuring leased lines markets. A count of the number of leased line termination points does not take account of the different types of leased lines that are available on the market - ranging from analogue voice quality to high speed digital leased lines, short distance local to long distance international leased lines (half-circuits). A measure of leased capacity that takes account of the bandwidths and lengths of the leased lines provided can overcome this, as can the use of leased line revenues. Of the two, leased lines revenues may be more transparent and less complicated to measure.

In the early stages of liberalization, the choice of measurement parameter is unlikely to alter the end result, but as market shares approach the 25% threshold, it will be necessary to carry out the calculation in a way that avoids distortion and provides predictability and legal certainty.

When using leased line revenues as the measurement parameter for SMP purposes, a network operator whose relevant leased line revenues represented more than 25% of the total leased line revenue in the geographic area in which the operator was authorized to operate, including revenues from international leased line half-circuits, would be presumed to have significant market power under the leased lines Directive.

In certain cases, there might also be a need for NRAs to require market players to break down the revenues in particular regions in order to calculate the market share within a geographical area.

## THE ONP VOICE TELEPHONY DIRECTIVE

### **Defining the Market for the ONP Voice Telephony Directive**

The aim of the Voice telephony Directive is to ensure the availability throughout the Community of good quality fixed public telephone services. The product/service markets for the purpose of this Directive are the market for the provision of fixed public telephone networks and/or the market for provision of voice telephony services. The Directive does not foresee that an operator would have SMP obligations for only certain parts of this market (eg only for its local / long distance / international businesses).

Obligations on SMP players in the Voice telephony Directive which involve provision of network connections and other facilities that are network dependent cannot be applied to organizations that merely offer services and do not operate networks. In principle, unless otherwise determined and justified by the NRA, the geographic market is the geographical area (within a Member State) within which an organization is authorized to provide and/or providing fixed public telephone networks and/or voice telephony services.

Where organizations are authorized on a regional and or local basis or are local/regional providers, it may be necessary to calculate the market in each region or locality. The total market in a particular geographical area is represented by the combined economic activity of all organizations authorized to provide and/or providing fixed public telephone networks and/or voice telephony services in that area.

### **Parameters for Measuring the Market and Market Shares for the Purposes of Voice Telephony Directive**

The product/service markets are the markets for the provision of fixed public telephone networks and/or voice telephony services. *Retail revenues, call minutes, or numbers of fixed telephone lines* or subscribers of public telephone network operators are possible criteria for measuring the markets and market shares of players operating in these markets.

As for leased lines, in the early stages of liberalization the choice of measurement parameter is unlikely to alter the end result, but in the longer term, it will be necessary to ensure that the measurements made give an undistorted measure of economic activity. For example, revenue generated by business lines and residential lines can be quite different, and therefore a simple count of the number of lines or number of subscribers may not give an accurate measure of economic activity in situations where some new entrants concentrate on serving residential customers and others on serving business customers. Similarly the use of call minutes can lead to distortion in situation where some market players are predominantly providers of local services (with a relatively low price per call minute), and others concentrate on long distance or international services (with relatively high price per call minute). Taking account of such differences in market structures, it seems at this stage that the use of retail revenues gives the least distorted view of the economic activity of market players, and is relatively easy to measure.

Revenues that are not related to the provision of fixed public telephone networks or voice telephony services (eg revenues related to the supply of terminal equipment) should not be included.

In certain cases, there might also be a need for NRAs to require market players to break down the revenues in particular regions in order to calculate the market share within a geographical area.

## THE INTERCONNECTION DIRECTIVE

### **The Relevant Markets in the Interconnection Directive**

The Interconnection Directive 97/33/EC requires four separate calculations of significant market power to be made:

- (I) Determination of those organizations that have significant market power for the provision of fixed public networks/services.
- (II) Determination of those organizations that have significant market power for the provision of leased line services.
- (III) Determination of those organizations that have significant market power for the provision of mobile public networks/services.
- (IV) Determination of those organizations that have significant market power on the national market for interconnection.

Market definition and assessment of market power for the purposes of the Interconnection Directive should take account of the context and specific obligations of the Interconnection Directive. Interconnection is defined as the physical and logical linking of networks; it is the market power of network operators that needs to be examined when making a determination of significant market power, and this in turn affects the definition of the relevant market.

In principle, unless otherwise determined and justified by the NRA, the geographical market is the geographical area (within a Member State) within which an organization is authorized to operate.

### **(I) SMP Calculations Related to the Provision of Fixed Public Networks/Services**

It is necessary to determine the extent to which a fixed network operator controls the market for fixed public telephone networks and fixed public telephone services in all or part of a Member State. Given the present market structure, characterized by integrated network operation and voice telephony service provision, it may be acceptable to use the same parameters for measuring market share as used for the voice telephony Directive.

A more robust future measurement parameter would be the revenues for terminating calls to customers on fixed networks. If a fixed network operator had more than 25% market share of all the traffic that is terminated on fixed networks in a Member State (measured in terms of revenue), that operator would be presumed to have significant market power. The terminating traffic to be measured would include own network traffic and interconnection traffic received from other fixed or mobile networks. The use of *revenues*, rather than for example call

minutes, takes account of the fact that call minutes can have different values (eg local, long distance or international), and provides a measure of market presence that reflects both number of customers and network coverage.

**(II) SMP Calculations Concerning the Provision of Leased Line Services**

For leased lines, the same parameters for measuring market share can be used as for the leased lines Directive. Normally therefore, organizations designated as having SMP for the provision of Leased line services will be the same organizations that are designated as having SMP under the Leased lines Directive.

**(III) SMP Calculations Concerning the Provision of Public Mobile Networks and/or Services**

It is necessary to determine the extent to which a mobile network operator controls the market for public mobile telephone networks and public mobile telephone services in all or part of a Member State. SMP obligations in the Interconnection Directive relating to mobile operators and/or mobile service providers are obligations related to interconnection of networks. Thus it is not appropriate to include in any calculation of market size the activities of organizations that are only mobile service providers and not mobile network operators.

In measuring market shares for the provision of public mobile networks and services, the most appropriate measurement parameter appears to be the revenues for terminating calls to customers on mobile networks. The use of call minutes could over-estimate the market presence of those mobile operators that provide relatively low priced local mobile services, vis-à-vis those operators that provide nation-wide services. As noted, the use of *revenues* provides a measure of market presence that reflects both number of customers and network coverage.

If a mobile network operator had more than 25% market share of all the traffic that is terminated on mobile networks in a Member State (measured in terms of revenue), that operator would be presumed to have significant market power. The terminating traffic to be measured would include own network traffic and interconnection traffic received from other fixed or mobile networks. This measurement parameter caters for the various structures of the mobile market in the EU as discussed above.

**(IV) The National Market for Interconnection**

Under Article 7(2) of Directive 97/33/EC, there is an obligation for cost orientation of the interconnection tariffs of public mobile network operators that have ‘significant market power on the national market for interconnection’.

***Market Definition***

The national market for interconnection should include all calls that terminate on networks in the territory of a Member State, having originated on a different network including international calls, regardless of whether the networks in question are fixed or mobile networks. In addition, in order to ensure that the methodology for calculating SMP is not affected by possible future changes in market structures (eg fixed/mobile integration, incumbents divesting into long distance and local businesses), it would be necessary to include the internal ‘interconnect’ business of these networks. Traffic carried by long distance

operators, that merely transport calls and do not terminate them, would not be included.

***Measuring the National Market for Interconnection in the Interconnection Directive***

Given the definition of the national market for interconnection set out above, the most appropriate parameter for measuring market share appears to be interconnect revenues for call termination, ie the combined interconnect revenues for terminating calls on all fixed and mobile network operators. For completeness, revenues for interconnecting leased lines should also be taken into account. The national market for interconnection would be measured as the sum of the following:

- ? total interconnection revenues of all fixed public network operators for terminating calls to their end users. The terminating traffic to be measured would include own network traffic and interconnection traffic received from all other public fixed and mobile networks, national and international.
- ? total interconnection revenues of all fixed public network operators for the interconnection of leased lines, national and international.
- ? total interconnection revenues of all public mobile network operators for terminating calls to their end users. The termination traffic to be measured would include own network traffic and interconnection traffic received from all other public fixed and mobile networks, national and international.

A mobile operator whose interconnect revenues exceeded 25% of the total national market for interconnection as defined above would be presumed to have SMP on the national market for interconnection.

**(iii) Data Collection**

(10) Community law gives NRAs the power to collect information from market players in a proportionate and reasonable manner. The specific provisions are listed below.

- ? The Licensing Directive 97/13/EC allows conditions linked to the provision of information reasonably required for statistical purposes to be included in licenses.
- ? The amended ONP Framework Directive 90/387/EC enables Member States to obtain from organizations providing telecommunications networks and/or services all the information necessary for them to apply Community legislation.

- ? The revised ONP Voice Telephony Directive 98/10/EC enables NRAs to request detailed accounting information from all organizations providing fixed public telephone networks and/or voice telephony services.
- ? The Interconnection Directive 97/33/EC enables NRAs to request detailed financial information from all organizations providing fixed public telecommunications networks and/or publicly available telecommunications services.

(11) It is for NRAs to decide how much of the information provided by market players should be made publicly available, while ensuring that relevant commercial and business secrets are protected. In view of the current pace of change in the market, it is suggested that NRAs should assess which organizations have significant market power on a regular basis, at least once per year.

**(iv) Deviating from the General Approach**

***Deviating from the 25% Market Share Presumption***

(12) The ONP Directives allow some flexibility for NRAs in determining significant market power, by taking into account criteria other than market share. In specific situations, an NRA may determine that an organization with less than 25% market share has significant market power, or that an organization with more than 25% does not have significant market power. In either case, the criteria to be taken into account are the organization's ability to influence the market conditions, its turnover relative to the size of the market, its control of the means of access to end-users, its access to financial resources and its experience in providing products and services in the market. In some cases, an organization's international links may also be relevant.

(13) In order to provide legal certainty for market players, NRAs should seek to ensure that any deviation from the 25% market share presumption is in accordance with pre-defined criteria published in advance.

***Consideration of Particular Geographical Markets (eg. Historic Regional Monopolies)***

(14) The general approach considers that the geographical markets for the determination of SMP obligations would normally correspond to the geographic area in which operators are authorized/licensed to operate. However, a specific situation arose in Finland and UK where ex-monopoly local operators have been authorized to operate nationally. In these specific cases, it may be justified for an NRA to determine that the operator has significant market power in its ex-monopoly local area, in view of its market influence in that geographical area, but not in the remainder of the country. Under these justified circumstances, the determination by the NRA of an operator as having SMP in a particular geographical area will impose on it the duties to carry ONP obligations as a “regional provider” in that area, even though the operator is licensed to operate in the whole territory of the Member State. In order to enhance legal certainty to market players, it will be important that NRAs publish in advance of any such determination the criteria and selection of such geographic areas that deviate from the general approach, and which require a particular consideration for SMP determination and obligations.

**RELEVANT MARKETS UNDER NEW EC FRAMEWORK**

(15) European Commission established a new legislative framework in 2002 for electronic communication sector in order to respond to convergence trends by covering all electronic communication networks and service within its scope. The purpose of this new framework was to identify those products and service markets where ex-ante regulations may be enforced. The European Commission has defined eighteen (18) relevant markets in accordance with their competition law principles. For the purpose of defining the relevant market, EC has mainly identified two categories of services; Retail Level and Wholesale Level. Within these two categories, further markets distinctions have been made keeping in view the demand and supply side characteristics. Following are the list of eighteen (18) relevant markets that have been identified by EC, where National Regulatory Authority of Member States may declare SMP operators:

***Retail level:***

- (i) Access to the public telephone network at a fixed location for **residential** customers.
- (ii) Access to the public telephone network at a fixed location for **non-residential** customers.
- (iii) Publicly available **local and/or national** telephone services provided at a fixed location for **residential** customers.
- (iv) Publicly available **international** telephone services provided at a fixed location for **residential** customers.
- (v) Publicly available **local and/or national** telephone services provided at a fixed location for **non-residential** customers.
- (vi) Publicly available international telephone services provided at a fixed location for **non-residential** customers.
- (vii) The minimum set of leased lines.

***Wholesale level:***

- (viii) Call origination on the public telephone network provided at a fixed location.
- (ix) Call termination on individual public telephone networks provided at a fixed location.
- (x) Transit services in the fixed public telephone network.
- (xi) Wholesale unbundled access (including shared access) to metallic loops.
- (xii) Wholesale broadband access.
- (xiii) Wholesale terminating segments of leased lines.
- (xiv) Wholesale trunk segments of leased lines.
- (xv) Access and call origination on public mobile telephone networks.
- (xvi) Voice call termination on individual mobile networks.
- (xvii) The wholesale national market for international roaming on public mobile networks.
- (xviii) Broadcasting transmission services, to deliver broadcast content to end-users.

## OBLIGATIONS PLACED ON SMP OPERATORS BY FINLAND

(16) Keeping in view the EC guidelines, Finland has placed the following obligations with respect to each of the respective relevant markets:

| S. No | Relevant Market   | Obligations of SMP Operator   |
|-------|---|---|
| 1.    | <b>Market (i) &amp; (ii).</b><br>Access to the public telephone network at a fixed location for residential and non-residential customers.  | 1. Provide subscriber a connection<br>2. Possibility to select telephone services<br>3. Publish standard agreement terms & tariff information   |
| 2.    | <b>Market (iii) to (vi)</b><br>Publicly available telephone services provided at a fixed location.  | 1. Carrier Pre-select<br>2. Publish standard agreement terms & tariff information   |
| 3.    | <b>Market (vii)</b><br>The minimum set of leased lines.   | 1. Provide the minimum set of leased lines to end users   |
| 4.    | <b>Market (viii) to (x)</b><br>Call origination on the public telephone network provided at a fixed location, Call termination on individual public telephone & Transit services in the fixed public telephone network. | 1. Interconnection obligation<br>2. Publish delivery terms & tariff information<br>3. Cost-oriented pricing<br>4. Cost accounting procedures<br>5. Accounting separation  |
| 5.    | <b>Market (xi)</b><br>Wholesale unbundled access (including shared access) to metallic loops.   | 1. Obligation to lease out parts and equipment facilities.<br>2. Publish delivery terms & tariff information<br>3. Cost-oriented pricing<br>4. Cost accounting procedures<br>5. Accounting separation               |
| 6.    | <b>Market (xii)</b><br>Wholesale broadband access.  | 1. Obligation to lease out to other operators part of local loop transmission capacity as wholesale broadband access.<br>2. Publish delivery terms & tariff information.<br>3. Prices should be non-discriminatory. |
| 7.    | <b>Market (xiii)</b><br>Wholesale terminating segments of leased lines.   | 1. Obligation to provide line rental of terminating segments of leased line<br>2. Publish delivery terms & tariff information<br>3. Prices should be non-discriminatory   |

| S. No | Relevant Market  | Obligations of SMP Operator   |
|-------|--|---|
| 8.    | <b>Market (xiv)</b><br>Wholesale trunk segments of leased lines.   | No individual mobile network operator has Significant Market Power in this Market   |
| 9.    | <b>Market (xv)</b><br>Access and call origination on public mobile telephone networks.                     | No individual mobile network operator has Significant Market Power in this Market   |
| 10.   | <b>Market (xvi)</b><br>Voice call termination on individual mobile networks.                               | 1. Interconnection obligation<br>2. Publish delivery terms & tariff information<br>3. Cost-oriented & non-discriminatory pricing<br>4. Cost accounting procedures<br>5. Accounting separation                                       |
| 11.   | <b>Market (xvii)</b><br>The wholesale national market for international roaming on public mobile networks. | No individual mobile network operator has Significant Market Power in this Market   |
| 12.   | <b>Market (xviii)</b><br>Broadcasting transmission services, to deliver broadcast content to end-users.    | 1. To relinquish capacity in terrestrial mass communication network<br>2. Publish delivery terms & tariff information<br>3. Cost-oriented & non-discriminatory pricing<br>4. Cost accounting procedures<br>5. Accounting separation |

**(B) MALAYSIA**

(17) The Malaysian Communication and Multimedia Commission launched an independent study to assess dominance within the communication industry. The Commission regards the pricing and supply-related behavior of licensees as relevant factors in assessing a dominant position in a communications market. These behaviors, which are indicative of a position of dominance, are as under:

- ? Predatory pricing.
- ? Foreclosure.
- ? Refusal to supply.
- ? Bundling.

(18) Keeping in view these behaviors, the Malaysian Commission identified following markets where dominant operator can be declared:

1. Fixed line narrowband access to the PSTN network;
2. Mobile telephony services;
3. Upstream network facilities;
4. Interconnection, encompassing wholesale call termination and origination;
5. Leased line services;
6. Broadband retail services; and
7. Analogue terrestrial television broadcasting transmission services.

**(C) BAHRAIN**

(19) In April 2003, Bahrain Telecommunications Regulatory Authority (TRA) issued its Determination on Methodology for Determining Market Power, in which it highlighted the following criteria that can be used for assessing dominance or SMP:

- ? Market share
- ? Overall size of undertaking
- ? Control of infrastructure not easily duplicated
- ? Network effects
- ? The conduct of the participants
- ? Technological advantages or superiority
- ? Absence of or low countervailing buying power
- ? Easy or privileged access to capital markets/financial resources
- ? Product/services diversification (e.g. bundled products or services)
- ? Economies of scale
- ? Economies of scope
- ? Vertical integration
- ? Highly developed distribution and sales network
- ? Absence of potential competition
- ? Barriers to expansion
- ? Ease of market entry

(20) A dominant position may arise from any combination of these criteria, which, if taken individually, might not be sufficient to determine dominance. Indeed, some of the

points outlined above are not suitable indicators of market power themselves, but may have importance through other factors, such as when the TRA is looking into the rationale or viability of certain types of strategic behaviour. Because of the complex nature of strategies that firms with market power may adopt, the TRA cannot reject such factors from its list of potentially relevant information.

(21) The TRA issued another Determination on ‘Dominance in Wholesale Markets’ in January 2006 and determined that the relevant wholesale ‘product markets’ for access services are as follows:

- (i) The wholesale market for fixed access to customer premises (including high-bandwidth, broadband and narrowband access);
- (ii) The wholesale market for access to transmission capacity; and
- (iii) The wholesale market for access to international facilities.

(22) The geographic scope of all the markets identified above is the Kingdom of Bahrain.

(23) The Dominant Operator (Batelco) was required to provide the Bahrain Telecommunications Regulatory Authority with a Reference Access Offer (RAO) for its approval, within two months from the date of the said Determination.

**DATA FOR DETERMINATION OF SMP OPERATORS**  
**IN**  
**FIXED LOCAL LOOP TELECOMMUNICATION MARKET**  
**(Telecom Region: \_\_\_\_\_)**  
**(For the period \_\_\_\_\_ to \_\_\_\_\_)**

| <b>Revenue</b>        | <b>Rs.</b> |
|-----------------------|------------|
| Installation/Shifting |            |
| Line Rent             |            |
| Local Calls           |            |
| Intra-Region Calls    |            |
| <b>Total</b>          |            |

*Note:* The data shall be provided for each Telecom Region (e.g. ITR, KTR etc.) separately, irrespective of number of LL licensees held by an operator. PTCL shall provide data for each of its fourteen (14) Regions.

**DATA FOR DETERMINATION OF SMP OPERATORS**  
**IN**  
**FIXED LDI TELECOMMUNICATION MARKET**  
(Licensed Territory: \_\_\_\_\_)  
(For the period \_\_\_\_\_ to \_\_\_\_\_)

| <b>Revenue</b>                      | <b>Rs.</b> |
|-------------------------------------|------------|
| Long Distance Calls (Intra-Region)  |            |
| Long Distance Calls (Inter-Regions) |            |
| International Outgoing Calls        |            |
| <b>Total</b>                        |            |

**DATA FOR DETERMINATION OF SMP OPERATORS**  
**IN**  
**MOBILE TELECOMMUNICATION MARKET**  
(Licensed Territory: \_\_\_\_\_)  
(For the period \_\_\_\_\_ to \_\_\_\_\_)

| <b>Revenue</b>                             | <b>Rs.</b> |
|--|------------|
| Line Rent                                  |            |
| Domestic Calls                             |            |
| International Outgoing Calls               |            |
| Roaming Charges                            |            |
| Revenue from Data Services (SMS, MMS etc.) |            |
| <b>Total</b>                               |            |

**DATA FOR DETERMINATION OF SMP OPERATORS**  
**IN**  
**NATIONAL FIXED INTERCONNECTION MARKET**  
 (Licensed Territory: \_\_\_\_\_)  
 (For the period \_\_\_\_\_ to \_\_\_\_\_)

Rs.

| <b>Revenue from terminating calls</b> | <b>Fixed-to-Fixed</b> | <b>Mobile-to-Fixed</b> | <b>Self-terminated Own-network</b> | <b>Total</b> |
|---------------------------------------|-----------------------|------------------------|------------------------------------|--------------|
| Local Calls                           |                       |                        |                                    |              |
| NWD Calls                             |                       |                        |                                    |              |
| International Incoming Calls          |                       |                        |                                    |              |
| <b>Total</b>                          |                       |                        |                                    |              |

**DATA FOR DETERMINATION OF SMP OPERATORS**  
**IN**  
**NATIONAL MOBILE INTERCONNECTION MARKET**  
 (Licensed Territory: \_\_\_\_\_)  
 (For the period \_\_\_\_\_ to \_\_\_\_\_)

Rs.

| <b>Revenue from terminating calls</b> | <b>Fixed-to-Mobile</b> | <b>Mobile-to-Mobile</b> | <b>Self-terminated Own-network</b> | <b>Total</b> |
|---------------------------------------|------------------------|-------------------------|------------------------------------|--------------|
| Local Calls                           |                        |                         |                                    |              |
| NWD Calls                             |                        |                         |                                    |              |
| International Incoming Calls          |                        |                         |                                    |              |
| <b>Total</b>                          |                        |                         |                                    |              |

**DATA FOR DETERMINATION OF SMP OPERATORS**  
**IN**  
**CALL TRANSIT SERVICE MARKET**  
**(Licensed Territory: \_\_\_\_\_)**  
**(For the period \_\_\_\_\_ to \_\_\_\_\_)**

| <b>Revenue</b>        | <b>Rs.</b> |
|-----------------------|------------|
| Metropolitan Transit  |            |
| Long Distance Transit |            |
| <b>Total</b>          |            |

*Note:* The data shall be provided for each Telecom Region (e.g. ITR, KTR etc.) separately, irrespective of number of LL licensees held by an operator. PTCL shall provide data for each of its fourteen (14) Regions.

**DATA FOR DETERMINATION OF SMP OPERATORS  
IN  
LEASED LINES MARKET**

(Licensed Territory: \_\_\_\_\_)

(For the period \_\_\_\_\_ to \_\_\_\_\_)

| <b>Revenue</b>                | <b>Rs.</b> |
|-------------------------------|------------|
| Domestic Leased Circuits      |            |
| International Leased Circuits |            |
| <b>Total</b>                  |            |

**DATA FOR DETERMINATION OF SMP OPERATORS  
IN  
BROADBAND ACCESS MARKET  
(Licensed Territory: \_\_\_\_\_)  
(For the period \_\_\_\_\_ to \_\_\_\_\_)**

| <b>Revenue</b>  | <b>Rs.</b> |
|---|------------|
| Revenue from provision of broadband access to other operators |            |
| <b>Total</b>  |            |