

Telecommunications De-regulation Policy

Consultative Paper

**Ministry of Information Technology &
Telecommunications
IT & Telecommunications Division**

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1. **Telecommunications De-Regulation Policy**

Economic Landscape:

- 1.1 Located in South Asia, Pakistan is one of the major regional economies and among the 10 most populous countries in the world with a population base of 146 million. The country is nearly four times the size of United Kingdom, and has India, Afghanistan, Iran and China as its neighbours. The economy of Pakistan is primarily driven by agriculture, which accounts for the largest share of GDP, contributing about 25% to the economy. Pakistan is one of the world's largest producers of raw cotton, which serves as the input to drive the textile industry - the mainstay of industrial activity in Pakistan. Pakistan's GDP per head is about US \$ 430.
- 1.2 The Government is committed to revitalizing the economy and to demonstrate its commitment to business friendliness through internationally acknowledged fiscal policies, good governance and transparency in managing Government affairs.
- 1.3 Telecom de-regulation policy draft consultative document ("Policy") has been prepared in line with Government's objective to de-regulate and liberalize various sectors of the economy. The Policy applies to opening up of the fixed line telecommunications sector from 1st January 2003. At that time, the exclusive rights of the Pakistan Telecommunications Company Limited ("PTCL") to provide basic telephone service (local, long distance, international and leased line service) will expire, which it enjoyed under The Pakistan Telecommunication (Re-organization) Act 1996.

2. **Telecommunication Sector of Pakistan in 2002**

Pakistan has made steady progress in expanding telecommunication networks and services in recent years. Key features of the present telecommunication infrastructure in Pakistan are:

- 2.1 **Pakistan Telecommunications Company Limited ("PTCL")**
 - 2.1.1 PTCL is the incumbent service provider for provision of fixed line telecommunications. Established as public limited company in 1996, PTCL is 88% owned by the Government of Pakistan. It has shown impressive growth in the past 5 years and manages a well-developed domestic telecommunication infrastructure of 4.5 million access lines, nationwide backbone and international communication through sub-marine cable (SMW3) and satellite links.
 - 2.1.2 PTCL has installed more than 1 million new telephone lines since 1996. As a result, teledensity (defined as the number of operational telephone lines as a percentage of population), at 2.45% (2001), has increased by 6% per year.
 - 2.1.3 The telecommunications network is almost entirely digital.
 - 2.1.4 As a result of tariff rebalancing program initiated by the Government in 1997, the prices of long distance and international calls have been significantly reduced in recent years.
- 2.2 **National Telecommunication Corporation ("NTC")**
 - 2.2.1 National Telecommunication Corporation was formed in 1996 in order to meet telecommunication requirements of Government and Defence Forces. It has a nationwide presence with a network of 72,000 customer access lines and nationwide fiber optic backbone infrastructure.
- 2.3 **Special Communications Organization ("SCO")**

2.3.1 The Government created SCO in 1976 and gave the task of installing and maintaining the telecommunication facilities in the entire Azad Jammu and Kashmir and Northern Areas. SCO operates a network of 60,000 lines in its territory.

2.4 Cellular Mobile Telephony

2.4.1 Cellular usage is growing strongly after the introduction of calling party pays ("CPP") regime in the year 2000. Currently, four operators (2 GSM, 1 D-AMPS, 1 AMPS) provide service to about 1.6 million cellular subscribers all over the country. The number of subscribers has more than doubled in the past one year.

2.5 Internet Services

2.5.1 More than 70 active Internet service providers provide Internet access, which is accessible in more than 1050 cities and towns. Low Internet access charges have encouraged Internet usage and acceptance by the Pakistani public. Internet services are accessible at a cost of unit local call without discrimination of distance in most parts of the country. Low-priced data communication services are available to companies in the information and communications technology sector in order to encourage these companies to establish and grow in Pakistan.

2.6 Role of Other Private Sector Operators

2.6.1 Private sector operators have played a very important role in developing the value added services market in Pakistan. The key achievement is installation of over one hundred five thousand pay phones and public call offices in addition to operations of value added services, premium rate calling systems and so forth. Some private sector service providers have deployed fiber optic infrastructure in main cities to provide Cable TV and Internet services. In addition, PTCL has entered into O&M contracts with private sector partners to offer services such as Wireless Local Loop (WLL) pay phones, DSL based Internet access, pre-paid calling cards, International voice termination using VoIP technology. Companies in the Information Technology business can set up satellite based direct international connectivity for call centers / IT services under franchise agreement with PTCL.

2.7 Regulatory Perspective

2.7.1 Efforts to develop a fully competitive market in telecom sector were initiated in the early 90's. The Pakistan Telecommunication (Re-organization) Act, (the "Telecom Act") was promulgated in 1996. Pakistan Telecommunication Authority ("PTA") – the industry regulator was established to regulate the telecom industry. PTA is a fully functional organization and has played a key role in developing private sector role in telecommunication services.

2.7.2 Frequency Allocation Board ("FAB") is an independent organization entrusted with the responsibility of allocating and assigning frequency spectrum to Government, telecom system / service providers broadcasting operators and private users of wireless systems. It operates within the provision of Telecom Act of 1996 and the guidelines/ recommendations laid down by ITU.

3. Policy Objectives

The policy is designed to achieve the following objectives:

- a. Increase service choice for customers of telecommunications services at competitive and affordable rates
- b. Promote infrastructure development, especially infrastructure that will increase both teledensity and the spread of telecommunication services in all market segments (including voice, data and cellular etc)
- c. Increase private investment in the telecommunications sector and encourage local telecom manufacturing/service industry
- d. Recognizing the challenge to incumbent, minimize the risk to the Government's revenue base
- e. Accelerate expansion of telecommunication infrastructure to extend telecommunications services to un-served and under-served areas
- f. Gradually liberalize the telecommunications sector by encouraging fair competition among service providers
- g. Maintain an effective and well defined regulatory regime that is consistent with international best practices and
- h. Maintain consistency with the Pakistan IT and Internet promotion policy of low prices for bandwidth and Internet access.

4. Number and Type of Fixed Line Telecommunication Service Licenses

1. It is proposed that there will be two types of licenses for fixed line operators:
 - Local loop ("LL") fixed line telecommunications
 - Long-distance and international ("LDI") fixed line telecommunications
2. There are proposed to be upto three new nation-wide licences for Long Distance and International fixed line telecommunications and upto three new Local Loop fixed line telecommunications licences per PTCL region.
3. It is proposed that these licences will be awarded through an open, transparent and competitive bidding process to pre-qualified bidders for which suitable criteria will be laid down. It is proposed that there will be a minimum floor price in the bidding of LDI licenses specified by the Government, however there will be no floor price fixed in the bidding of local loop license. The bidding document will specify the minimum licence conditions. The evaluation criteria will include but not limited to the level of licence fee. A company can hold both types of licenses i.e., LDI and any number of LL licences if won on a competitive basis.
4. Existing operators of telecommunications services in Pakistan would be permitted to retain their current licenses or O&M agreements with PTCL. They may compete for a new local loop and / or long distance license on above basis.

4.1 Obligations of the New Licensees for Fixed Line Telecommunications

4.1.1 LDI Licences

LDI licensees will have the following key obligations:

- a. Start roll out by building at least one point of interconnection in each of thirteen PTCL regions within one year of award of licence and in all PTCL transit exchanges (currently 36 in number) within 3 years.
- b. The operator will be permitted to lease infrastructure from PTCL or any other infrastructure owner on mutually agreed commercial terms, non-discriminatory to other licensees seeking the same facility. The operator must own a proportion of the transmission systems and cables comprising its network. The proportion will be 10% in year 1, rising to

30% in year 2 and 50% in year 3 measured in 2Mbit/s x km. A long-term lease of 5 years or more will be acceptable in lieu of ownership. The operator will provide a performance bond of US\$ 5 million in respect of infrastructure and roll-out targets in the form and substance acceptable to the Government and provide incoming and outgoing interconnection services, both for voice and IP data traffic, to all who may request it.

4.1.2 LL Licences

LL licensees will have the following key obligations:

- (a) Start operations with one Point of Interconnect within the prescribed period and in each licensed PTCL Region where they operate ("Points of Interconnect" are premises at which other licensed operators can send to or receive from the LL licensee voice or data traffic originated by or destined for the LL licensee's customers) at acceptable technical and quality standards.
- (b) In the event that another operator considers that an LL licensee's termination prices are inappropriate, the PTA has the power to resolve the dispute and impose cost-based prices.
- (c) Provide free of cost directory services to its own customers, access to emergency services, operator assistance and any other similar support services as required by PTA.
- (d) LL operators will not be permitted to carry voice calls between PTCL Regions (other than metro regions) or long distance / international traffic. They may carry voice calls between municipalities, but only within a single region.

4.1.3 Both Licensees

4.1.3.1 Both types of licensees will be required to provide regular reports to the PTA on quality and network implementation. These will include but be not limited to the number of voice lines and B channels, and revenues from line rentals. They will also detail revenues and minutes from local, long-distance and outgoing international and incoming international separately. LL operators will file separate reports for each PTCL Region in which they operate.

4.1.3.2 Both types of licensees will be penalised for failing to meet license obligations, or failing to make use of radio spectrum that is allocated to them. In addition, the licensees may be obliged to provide services as may be mandated to achieve above defined policy objectives.

4.1.3.3 Operators will pay to PTA a fixed annual fee, approved by the Government, to reasonably cover the costs of regulation. The annual fee shall not to exceed 0.5% of last year's gross revenue minus inter-operator and related PTA mandated payments.

4.1.3.4 Operators will devote 1% of gross revenue minus inter-operator and related PTA mandated payments to qualified research and development.

4.1.3.5 Other Licenses

4.1.3.6 Following the initial licensing of LL and LDI operators, the Government intends to formulate separate policy for corporations that wish to establish intra-corporate networks.

4.2 Access Promotion Contribution

- 4.2.1 At present, net incoming international traffic generates a financial premium over the cost of conveying and terminating the traffic into Pakistan. Although historically, this premium has been large, it has been steadily reducing in-line with global trends.
- 4.2.2 As long as the premium continues to exist, a reasonable portion of the premium is proposed to be used to promote infrastructure expansion. The portion of the premium applied to promoting infrastructure expansion is referred to as the Access Promotion Contribution ("APC").
- 4.2.3 The design and implementation of APC program will be guided by the following principles:
 - (a) The APC shall be used to foster new infrastructure development to increase teledensity.
 - (b) The distribution of funds between LDI and LL operator shall be done in a transparent and non-discriminatory manner.
 - (c) The APC program shall be under the regulatory supervision of the PTA, which shall also regulate international traffic agreements. APC would be governed through a formula to be specified. The APC derived from the formula would be reviewed and notified at least once every six months.
- 4.2.4 The APC shall not be available to cellular operators. Premium of APC on current cellular termination rates to be mopped up and diverted to Universal Service Fund.
- 4.2.5 Mechanism to enforce APC related roll-out plan shall be specifically enforced and monitored by PTA.
- 4.2.6 No LL licensee may claim APC payments without first actually delivering the telephone calls to the customer premises in respect of which it is claiming APC payment.
- 4.2.7 In order to secure the effective collection of APC, negotiation of bilateral accounting rates will be supervised by the PTA, although it is expected that PTCL will have a lead role in the actual negotiations. All operators will be obliged to file reports on the volumes, sources and destinations of international incoming minutes, and allow PTA to audit their call detail recording and billing systems with the aim of detecting and eliminating fraud. The LDI operators will also be obliged to provide real time on-line traffic information for monitoring and mirroring of international traffic data to PTA.

4.3 Rights of the licensees

- 4.3.1 Licensees will have the right to contract for the "rights of way"(RoW) they need to construct their networks, subject to conditions laid down by the concerned agencies.
- 4.3.2 Entities (for example, those in the power, gas, water and rail transport sectors) besides PTCL with suitable land holdings will be encouraged to provide access to rights of way subject to availability, on a non-exclusive basis.
- 4.3.3 LDI licensees will have the right to non-geographic numbering ranges, and will also be allocated short codes for operator service. They will also be issued a four digit Access

Code of the type “xxxx”, to allow Indirect Access (call-by-call carrier selection) by incumbent’s customers.

- 4.3.4 PTCL shall upgrade all local switch software to allow the automatic insertion of the Access Code before the numbers dialled by customers of LDI licensees (carrier pre-selection) by June 2005. An up-gradation plan with clear mile-stones may be specified in the policy and monitored.
- 4.3.5 PTCL will allow LDI Licensees to sub-lease half-circuit capacity on the SEA-ME-WE-3 system on non-discriminatory prices under commercial arrangements. In the event of capacity shortage on the system, PTCL shall allocate a minimum proportion of the total capacity employed for voice circuits to new entrants.
- 4.3.6 PTCL shall publish a cost-based price for restoration in the event of fault on the non-self-healing cable, to the same availability standards as it currently enjoys.
- 4.3.7 LDI licensees will have the right to participate in, and obtain IRUs from submarine cable consortiums, and the right to install earth stations. They will have the right to co-locate in PTCL’s international exchange buildings, and backhaul to and from them using their own fiber and / or own radio spectrum, where practicable. Licensees will have the right to participate in future landing points for new cables. Access by licensees to PTCL’s satellite earth stations will be on commercially negotiated terms between PTCL and the licensee would be subject to PTA monitoring.
- 4.3.8 LL licensees will have the right to geographic and non-geographic numbers, as well as short codes (for example, for operator service).
- 4.3.9 PTA will be the number issuing authority. PTA will organise and manage numbering in order to ensure contiguous numbering for new entrants, wherever practicable. PTA will set a nominal charge for numbering to discourage misuse, and a procedure for taking back numbering ranges not used within a reasonable period of time.
- 4.3.10 LL licensees will, however, be exempted from the requirement to offer Indirect Access (carrier selection) to their subscribers, until such time as they enjoy Significant Market Power (SMP) as determined by the PTA.
- 4.3.11 There will be no obligation on licensees to open ducts, poles or other such facilities to competitors until they enjoy significant market power.

4.4 Radio spectrum

- 4.4.1 Radio spectrum is a valuable public resource belonging to the State and must be used in the public interest. The FAB is responsible for properly managing radio spectrum.
- 4.4.2 Wherever possible and consistent with good spectrum management practices, operators shall be required to share spectrum with other operators.
- 4.4.3 Operators shall relinquish rights to spectrum that is no longer needed for their operations, and allow sharing of the bands they currently occupy where such sharing is technically feasible, and subject to management by FAB of frequency re-use in the band in accordance with best international practices.
- 4.4.4 All entities using spectrum shall be charged a fee for spectrum. The factors to be considered in setting fees shall include but not limited to coverage, scarcity and value of the spectrum.

- 4.4.5 Where demand exceeds available frequency spectrum, it shall be allocated by auction or other transparent, non-discriminatory and competitive process.
 - 4.4.6 Pakistan plans to follow ITU specified radio frequency bands specific for the purpose of operations of WLL, point to point microwave and backbone services in the bands such as 3.5GHz, 10 GHz, and 26-40GHz among others.
 - 4.4.7 Details of currently available frequency allocations shall be made available by PTA.
 - 4.4.8 The FAB shall deal with the requests for radio spectrum, within the framework of Telecom Act 1996 and Rules thereunder and process applications within a target of 30 days.
 - 4.4.9 LDI licensees will be entitled to radio spectrum for point-to-point / and backbone links, within the parameters of their licences, where available, and on payment of spectrum charges.
 - 4.4.10 LL licensees will be entitled to radio spectrum for WLL systems, and also spectrum for point-to-point links, where available and on payment of spectrum charges.
 - 4.4.11 It is expected that new licensees will have access to spectrum in the 3.5 GHz band for wireless local loop applications and in the 10 GHz and 26 GHz bands for point to point applications. The FAB shall investigate making available other suitable bands for use by operators.
 - 4.4.12 LL and LDI operators that receive spectrum shall meet defined usage milestones, failing which they must relinquish their rights to use the assigned spectrum.
- 4.5 Interconnection
- 4.5.1 Both types of licensees will have the right to interconnection, leased lines and co-location facilities from the incumbents. Pricing of the incumbent services will be determined in accordance with the Rules already notified.
 - 4.5.2 Pending the development by PTCL of unbundled cost accounts of services that are approved by the PTA, incumbent's interconnection prices shall be based on international benchmarks.
 - 4.5.3 The initial interconnection prices will be notified by PTA by June 2003. Lead times for provision by PTCL to entrants of interconnect facilities (inter alia) shall be set out in a Reference Interconnect Offer to be made available by PTA, and will be in accordance with international benchmarks.
 - 4.5.4 Both types of licensees will have the right to co-locate in PTCL local and transit exchange buildings, and to connect their own fiber and own radio links to PTCL buildings.
- 4.6 Obligations of Operators:
- 4.6.1 The Government believes that the success of market liberalization depends on the development of a fair competitive environment for all operators. In this regard, PTCL and other SMP operators that may emerge, shall be prohibited from abusing their dominant positions through anti-competitive conduct. At present, PTCL's licence contains prohibitions against anti-competitive conduct. These prohibitions shall be updated, incorporated in the Rules and made applicable to all such operators that are determined by the PTA to possess SMP.
 - 4.6.2 The PTA shall have the responsibility of promptly investigating allegations of anti-competitive conduct and taking remedial measures against such conduct.

- 4.6.3 The PTA will continue to regulate PTCL's rates and services in the public interest, subject to the price cap regulation scheme set out in the Rules. As the market for particular services become effectively competitive, the PTA shall reduce the regulatory burden on PTCL in respect of such services, while maintaining appropriate anti-competitive safeguards.
- 4.6.4 Wherever PTCL faces competition and when the competitors price their services below the PTCL regulated rate, PTCL will be at liberty to offer discount in the region / area concerned to meet the challenges of competition.

4.7 Additional Obligations on PTCL

- 4.7.1 In order to facilitate market liberalization, PTCL, within a stipulated time frame, is obliged to:
- (a) Prepare all transit switches and all tandem switches for interconnection. Implement within four months, all necessary upgrades in the transit switches to attend to the capacity orders submitted by new entrants. PTCL shall not be required to implement upgrades in respect of orders not accompanied by pre-payment of one years' per port cost. PTCL shall pay suitable penalties in case of delay in providing ordered Pols, to be determined by PTA.
 - (b) Prepare 50% (measured by lines in service) of local (MSU) switches for interconnection within one year. The remainder to be done in two equal stages within the subsequent two years.
 - (c) Enable subscriber lines on all digital local switches to perform Indirect Access (call-by-call carrier selection) for 22 digit numbers within one year.
 - (d) Enable all subscriber lines to perform Indirect Access
 - (e) Enable all subscriber lines to perform carrier pre-selection
- 4.7.2 Unbundling of service and cost accounting information should be done based on the principles of transparency, orientation, and allocation based on activities and related cost drivers. They shall be sufficiently detailed to allow the clear identification of (a) activities related to interconnection - covering both interconnection services provided internally and interconnection services provided to others; and (b) other activities, so as to identify all elements of costs and revenues. Details of the basis of their calculations and the allocation methods used shall be provided, including an itemized breakdown of fixed assets and structural costs. Sufficient records must be kept to allow an independent audit of these cost accounts.
- 4.7.3 PTA will issue a Reference Interconnection Offer (RIO) to be used as the default interconnection offer for interconnection with PTCL pending determination of LRIC based pricing. PTCL can implement amendments to the interim RIO, subject to the prior approval of PTA.
- 4.7.4 PTCL shall continue to be obliged, until end 2007, to install exchanges and lines in rural / under served areas at the same annual average rate as it achieved during the exclusivity period. This will be verified by PTA on year by year basis.

5. Universal Service

- 5.1 The Government has designed the market liberalization policy to maximize the commercial availability and coverage of telecommunications networks and services in

Pakistan. The Government recognizes, however, that even with market liberalization, and under strictly commercial considerations, there may exist certain populations or geographic areas that would remain un-served or relatively underserved. The Government's universal service policy is designed to ensure that these designated populations and geographic areas receive adequate service in a sustainable manner as resources permit.

- 5.2 The PTA is required under section 4(e) of the Telecom Act 1996 to "promote the availability of a wide range of high quality, efficient, effective and competitive telecommunications services throughout Pakistan". In furtherance of this broad policy objective, the Government intends to amend the Telecom Act 1996 and the Rules, as appropriate, to establish a Universal Service scheme.
- 5.3 The main financing mechanism to promote universal service in Pakistan will be the Universal Service Fund ("USF"). The precise form and working of the USF including USR rules will be determined by PTA with the approval of the Government.
- 5.4 The USF will be placed under and administered by the Government / PTA, including collections for, and disbursements from the USF. The amounts and usage of the USF will be made public, and be subject to independent audit.
- 5.5 The USF will be used to finance the expansion of basic services (including access to the Internet), both on individual and community basis. Under USF rules, there will be a determination about the level and types of services to be financed by the USF, the designated populations or geographic areas eligible to receive subsidized services from the USF, and the level of available financing and actual subsidies.
- 5.6 Disbursement of USF funds shall be made through a transparent, non-discriminatory and competitive process.
- 5.7 The USF will be predominantly financed by revenues collected from all telecommunications licensees through a universal service fund charge (the "USF Charge"). Premium of APC on current cellular termination rates would be mopped up and diverted to USF. The USF may also receive contributions from the Government, and also funding from international or bilateral development agencies.
- 5.8 The USF Charge shall be paid by all operators licensed to provide basic telecommunications services excluding incumbent cellular operators (for which a separate policy on cellular mobile sector is being formulated), very small operators with revenues below a defined threshold or those subject to roll-out obligation in lieu thereof.
- 5.9 The USF Charge will be limited to maximum of 1.5% of gross revenue minus inter-operator and related PTA mandated payments as determined by the Government.

6. Grant of Licenses

- 6.1 PTA shall prepare the requisite applications, licence templates, information package and other necessary measures with the approval of Government to facilitate the licensing process. Issuance of licences will commence as soon as possible after January 1, 2003.

7. The Role of Mobile Cellular Operators in Fixed Market Liberalization

- 7.1 The Government recognizes that mobile cellular operators have an important role to play in expanding access to telecommunications networks in Pakistan. There is evidence that some customers in Pakistan already rely on mobile cellular phones as an alternative to fixed line telephones. Moreover, the experiences in other developing countries show that mobile cellular technology can be cost effectively employed as an access technology.

- 7.2 The Government encourages mobile cellular operators to expand their geographic coverage, increase their offerings to price-sensitive customers and improve their quality of service. The current cellular licencees may continue their services under the existing tariffs and interconnection terms.
 - 7.3 The Government will shortly formulate policy for cellular mobile and wireless sector. The policy will take into account the extent to which frequency spectrum bands can be used to foster the increased availability of fixed and mobile wireless services.
 - 7.4 The Government intends to offer atleast two new cellular licences for sale through a transparent, open and competitive bidding process in 1800 MHz frequency bands. The process of bidding for 1800 MHz band will be completed before 31 December 2003 followed by a similar process for award of 3G licenses.
8. Existing organisations
 - 8.1 SCO will continue to operate exclusively in its territory as now.
 - 8.2 SCO and NTC will have the right to continue with the existing revenue sharing agreements they have with PTCL and cellular operators. They are encouraged however, to migrate these revenue sharing agreements to interconnection agreements in accordance with this policy at the earliest practical time.
 9. Continuity of IT Policy
 - 9.1 PTCL will be obliged to continue offering '131' Internet access as at present, and to continue to extend the service to PTCL exchanges not currently served, at the same average annual rate (measured in exchanges) as achieved during the exclusivity period.
 - 9.2 Entrants licensees will be required to offer '131' service, using the '131' code, at standard '131' prices.
 - 9.3 The Internet bandwidth prices will not be allowed to be increased from the current levels.
 10. Miscellaneous
 - 10.1 The Policy would be valid for five years from date of implementation and will be subject to review after this period.
 - 10.2 Appropriate changes in the Regulatory framework would be made expeditiously to support the policy.
 11. Footnotes:
 - 11.1 The policy and licensing regime are proposed to be technology neutral.
 - 11.2 LL / LDI licencees may employ any technology like DWDM, CDMA, IP, VOIP and so forth within flexibility of License.
 - 11.3 Class licensing regime is proposed to be enforced based on templates to be approved as part of policy process.