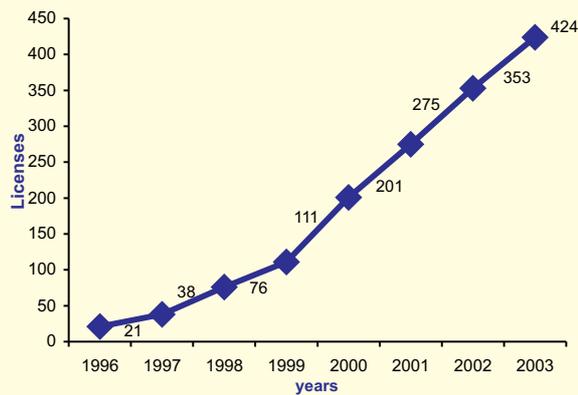


HIGHLIGHTS OF THE YEAR 2002-2003

- Chairman PTA become Member of International Chamber of Commerce
- Pakistan won the ITU election for the position of ITU council membership, and a seat in Radio Regulation Board
- Completion of the Authority with the joining of the Member (Technical) and Member (Finance)
- Annual accounts of the Authority finalized
- GSM license issued to SCO to provide mobile cellular telephony services in the AJK and Northern Areas of Pakistan
- Registration of PakSat-I
- Permission to PTCL for establishing 2nd submarine cable landing station in Pakistan
- Award of first ever license to establish, maintain and operate Video Conferencing in Pakistan
- VSAT connectivity allowed for IT enabled service under PTCL franchise
- PTA conducted 2nd quality of service survey of mobile operators
- Show cause notice issued to M/s Mobilink and subsequently penalized it for Rs 60 million,
- Off-Net charges on cellular mobile abolished
- Inter operator SMS implemented
- GMPCS tariff approved
- Total 80 licenses issued for Value Added Services and 46 for Radio Based Services
- 76 No Objection Certificate (NOCs) were issued for telecom equipment
- Redressal of 1 691 complaints
- More than 30 determinations issued and 90% of which were reinforced
- PTA conducted 3rd quality of service survey of ISPs
- Cyber security guidelines issued after the attacks on IT services in Pakistan
- Policy recommendations for sale of Internet telephony cards framed
- Dealership license requirement for wireless equipment supply abolished
- Modification in the license of M/s Paktel to migrate from AMPS to EGSM
- Simplification of type approval procedures, reduction in the equipment list and fee rate approved and published
- Seminar on 'Frequency Allocation and Spectrum Management' organized

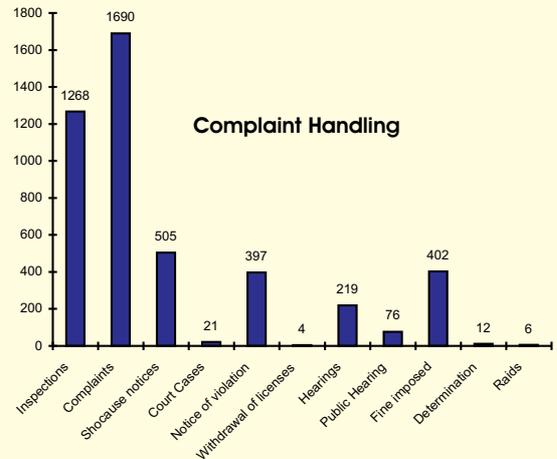
PTA's PERFORMANCE OVER THE YEARS

Yearly increase in licenses

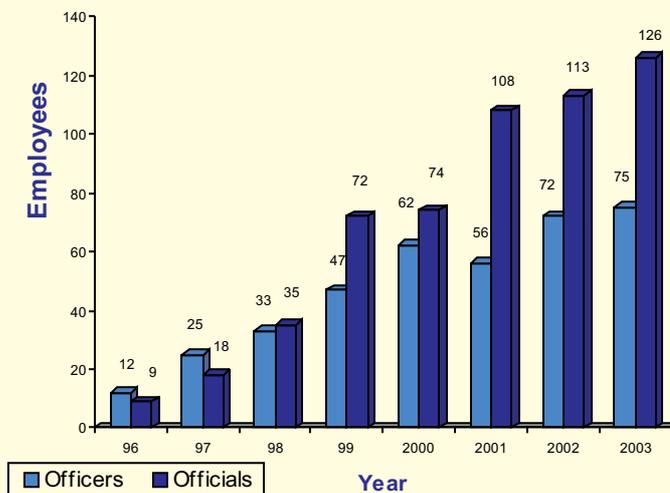


PTA has awarded a total of 424 licenses since 1996

PTA started its journey in 1996 with only 12 officers & 9 supporting staff. Today it has 75 officers & 126 supporting staff



Human Resources



Consumer safeguard & curbing anticompetitive practices by operators are prime objectives of PTA as it receives and redresses huge number of complaints every

PTA CREATING VIBES



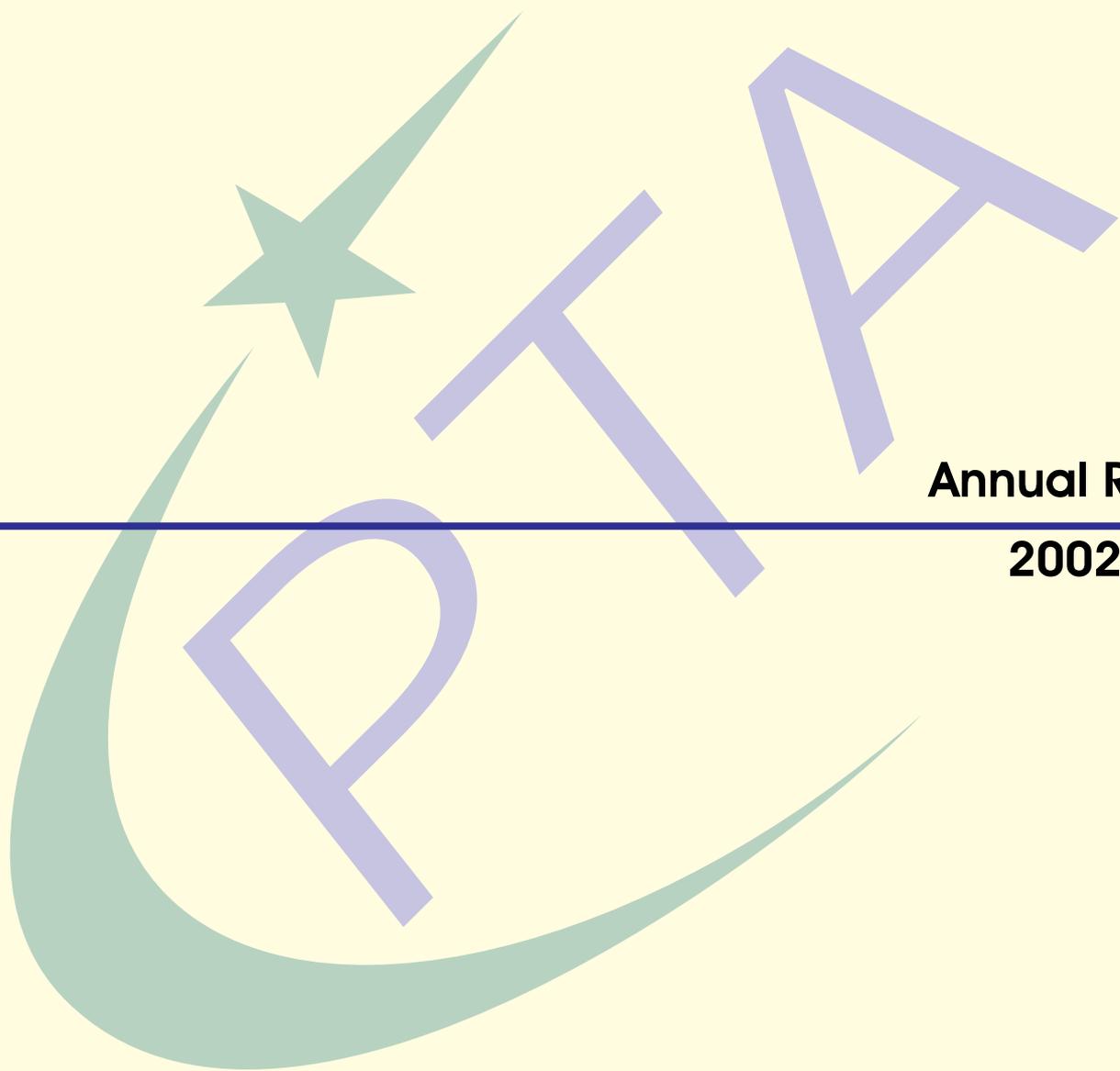
1. Minister for IT Information Technology visited PTA
2. PTA organized meeting of all Regulatory Authorities of Pakistan.
3. Minister for Northern Areas & AJK visited PTA for promotion of Telecom in NA & AJK.
4. Mobile companies signed interconnect agreement for exchange of SMS facility with each other.
5. ORASCOM chief with Director Mobilink visited PTA.



Annual Report
2002-2003



PAKISTAN TELECOMMUNICATION AUTHORITY



**Annual Report
2002-2003**

Pakistan Telecommunication Authority

Annual Report 2002-2003

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Appendix F: PTA-Financial Statements 2003

ACRONYMS

ADSL	Asymmetric Digital Subscriber Line
AJK	Azad Jamu & Kashmir
AMPS	Analogue Mobile Phone System
APT	Asia Pacific Telecommunity
CMTO	Cellular Mobile Telephone Operators
DCNS	Data Communication Network Services
EIS	Electronic Information System
FAB	Frequency Allocation Board
FNO	Foreign Network Operators
GMPCS	Global Mobile Personal Communication Systems
GSM	Global System for Mobile
ISP	Internet Service Provider
IT	Information Technology
IT & T	Information Technology & Telecommunication
ITU	International Telecommunication Union
LDI	Long Distance & International
LL	Local Loop
MVNO	Mobile Virtual Network Operators
NOCs	No Objection Certificates
NPGIT&I	National Postgraduate Institute of Telecommunication and Informatics
NTC	National Telecommunication Communication
PCOs	Public Call Offices
POI	Point of Interconnect
PRS	Premium Rate Services
PSDN	Public Switch Data Network
PTA	Pakistan Telecommunication Authority
PTCL	Pakistan Telecommunication Company Limited
PTML	Pakistan Telecom Mobile Limited
PT & T	Pakistan Telegraph & Telephone
QoS	Quality of Service
SBO	Services-Based Operator
SCO	Special Communication Organization
SMP	Significant Market Power
SMS	Short-text Message Service
SOP	Standard Operating Procedure
TIP	Telephone Industries of Pakistan
UN	United Nations
VoIP	Voice over Internet Protocol
WRC	World Radio-communication Conference
WTO	World Trade Organization



CHAIRMAN'S REVIEW

I feel immense pleasure in presenting the Annual Report of PTA for the year ended June 30, 2003.

Deregulation of Telecom Sector

Rapid changes in the telecom technologies, business models and wave of liberalization & deregulation have transformed the basic character of the telecom sector all over the world. To ensure rapid growth of telecom sector, Regulators are directing their energies from traditional command & control systems to liberalized user friendly market oriented approaches. In order to face the upcoming challenges more than 121 countries have moved towards liberalizing their telecom sectors. Confidence in market forces has started building up. In Pakistan too, efforts are being made to eliminate the domination of 56 years of monopolistic culture.

Deregulation of telecom sector and introduction of free & fair competition in the provision of telecommunications facilities and services w.e.f. January 1, 2003 kept PTA absorbed in voluminous theoretical work on issues like pricing, numbering, licensing etc. To cater the requirements of the liberalized telecom sector PTA is now fully equipped to combat the challenges likely to be confronted during the implementation stage of the Telecom Policy and to this end, has finalized all necessary documentary and preparatory works. I do like to mention here the dedicated efforts made by the Deregulation Group who committed itself to the complex task of deregulation assignment.

Financial Results

The total Income for the year was Rs.645 million against an expenditure of Rs.157 million resulting into an excess of Rs.488 million for the year. Due to effective collection, the License fee receivable was reduced to Rs.118 million compared with Rs.277 million as of 30th June, 2002. PTA contributed an amount of Rs.474 million to Government of Pakistan during the financial year.

A feature of the audited accounts, that needs to be mentioned, is the absence of qualifications by the auditors on the veracity of the accounts for the period. The major concerns of the auditors, in the past, related to fixed assets, capital expenditure, revenue billed, GPF, loans to employees and debtors have been addressed appropriately.

PTA has undertaken an extensive exercise to overhaul the accounting set up to develop a reliable system for maintaining correct and adequate underlying records. This effort has succeeded to a large extent and the accounts for

period ended 30th June, 2003 contain no observation of auditors. I take pride in this achievement and commend the tireless efforts of the management and staff who made this achievement possible.

The overall accounting and management set up of PTA is still under structural changes to further streamline it to achieve better performance. Accounting has already been computerized and new Oracle based software has been developed. This step alone will go a long way to inculcate a sense of self-appraisal and self-improvement in PTA.

Achievements

During the preceding year, PTA issued a total of 80 licenses for value added services, out of which, 56 licenses were issued for Card Payphone Services, 15 for Electronic Information Services and the rest 9 for other services. During the year under review, PTA issued first ever license for the operation of Video Conferencing Services, 22 HF/VHF/ UHF Private Land Mobile/Fixed, 6 Inmarsat/Satellite Phones and 12 Amateur Radio licenses. Six satellite companies also registered themselves with PTA during the year under report.

To ascertain the quality of services of Cellular Mobile Operators (CMTs) as well as of Internet Services Providers (ISPs) PTA conducted two surveys during the year under report. As a result of these surveys it was revealed that the quality of Service, particularly of the CMTs, was not found at par with the international standards. Consequently, Show Cause Notices were issued to all the Mobile Operators. M/s Mobilink, having the largest customer network, after providing them fully opportunity to defend their case in an open hearing, was directed to compensate their customers to the extent of Rs.60 million for providing poor and substandard services.

To provide cellular mobile facilities in the remote and mountainous areas of AJK and Northern Areas, the Authority also awarded GSM license to SCO for the operation of mobile phone services in such territories.

PTA believes in the participatory approach and in this respect is taking major policy decisions to resolve the problems of stakeholders and the consumers. During the year under review, several public forums and seminars were held on very crucial issues by involving consumers and other stakeholders which contributed in creating a congenial atmosphere and taking rational policy decisions.

With all these major achievements, I feel confident that PTA is fully equipped and in a position to fulfill its obligations and responsibilities in an era of liberalization and competition. I must appreciate the dedicated efforts of all PTA officers and staff who worked hard with zeal and devotion in the accomplishment of assigned tasks associated with deregulation process. I would also like to impress upon them that now is the time that PTA has to brace itself in the completion of assigned responsibilities in a professional manner to reap the benefits of deregulation for the socio-economic development of the country.

I wish my team every success in achieving the targets/ goals assigned to them.

About Telecom Regulator

OUR VISION

“Create a fair regulatory regime to promote investment, encourage competition, protect consumer interest and ensure high quality ICT

PAKISTAN TELECOMMUNICATION AUTHORITY

Pakistan Telecommunication Authority has been promoting and developing the Pakistan telecommunication sector, since 1996. Established under the Telecommunication (Re-organization) Act 1996, the Authority consists of a Chairman, Member (Technical) and Member (Finance). In total 75 officers assist the Authority in execution of its responsibilities and functions.

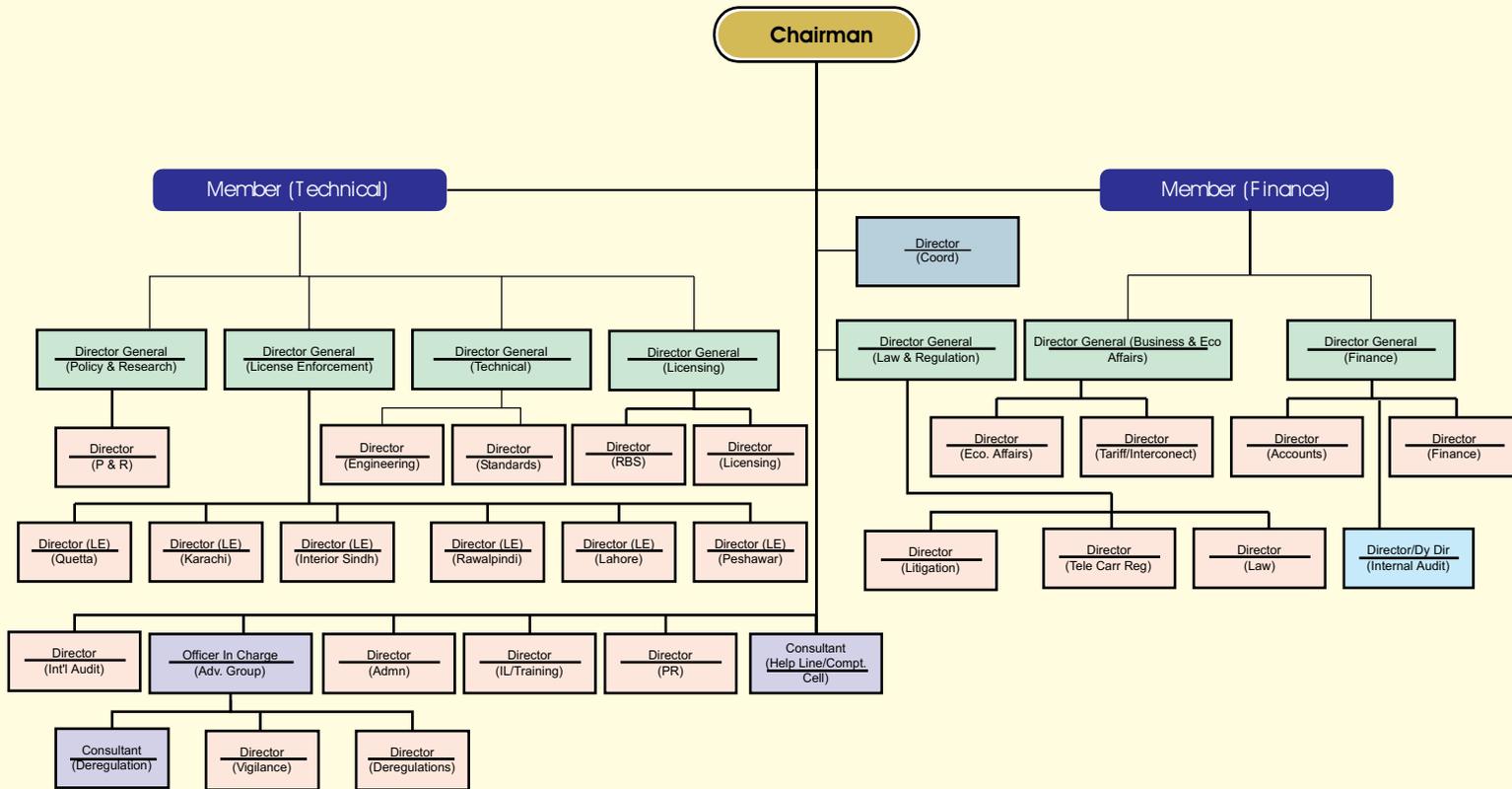
Powers

The Authority under Telecom Reorganization Act 1996 is conferred with following powers to perform its functions, purposefully, for the promotion of Pakistan telecom sector:

1. Grant and renew licenses for any telecommunication system and any telecommunication service;
2. Monitor and enforce licenses;
3. Receive applications for the use of radio frequency spectrum and, subject, where applicable, to grant licenses and refer such applications to the Frequency Allocation Board for assignment of spectrum within a period of thirty days;
4. Modify licenses or conditions thereof;
5. Establish or modify accounting procedure for licenses and regulate tariffs for telecommunication service;
6. Regulate the transfer of licenses;
7. Prescribe standards for telecommunication equipment and terminal equipment, certify compliance of such equipment with prescribed standards, and issue approvals of terminal equipment and of approved installers;
8. Provide guidelines for and determine, the terms of inter-connection arrangements between licensees where the parties to those arrangements are unable to agree upon such terms;
9. Carry out inspections of telecommunication equipment and any premises owned or occupied by the licensees and summon any person for investigation and inquiry;
10. Appoint an administrator in circumstances, where required;
11. Develop national telecommunication numbering plans;
12. Collect information with respect to telecommunications within and outside Pakistan and review the impact thereof;
13. Enter into contracts;
14. Issue regulations for exercising its powers and performance of its functions.

Organizational Structure

Pakistan Telecommunication Authority



The Authority



Chairman

Major General (Retd) Shahzada Alam Malik, an expert in the field of telecommunication, was an obvious choice for the esteemed office of Chairman Pakistan Telecommunication Authority (PTA) back in 2001.

He was promoted to Major General in 1993 and appointed as Signal Officer in Chief. He has to his credit, revolution in communication system for Pakistan Army. As head of Special Communication Organization (SCO), he ushered in a new digital communication system in entire Azad Jammu and Kashmir. He also held the position of member Board of Directors of PTCL for nearly five years. As a member PTCL board of directors, he was closely associated and worked with the team in formulation of Telecom Reorganization Act (1996). He also remained actively involved in privatization process of PTCL. He served as Additional Secretary in the Ministry of Defence for three years. This experience allowed him to closely observe the working of country's top civilian bureaucracy.

Holding the portfolio of Chairman PTA, he has introduced PTA as a transparent, liberal and independent telecom regulator.



Member (Finance)

Muhammad Nehmatullah, Member (Finance), Pakistan Telecommunication Authority (PTA) has fifteen years of experience in the telecom industry. Prior to that, he also worked for Pakistan Airlines. Before joining PTA, he held the position of General Manager (Finance), Chief Accounts Officer and Director General (Accounts) at PTCL.

Twenty one years experience including fifteen years in telecom industry with the two major companies of the sector, i.e. Telephone Industries of Pakistan (TIP) and Pakistan Telecommunication Company Limited (PTCL), his major achievements include implementation of a fully integrated financial system of accounting, funds management, inventory management and initiation of product wise analysis. At PTCL, he introduced budgeting and treasury functions on commercial pattern, conversion of single-entry cash basis accounting into internationally recognized double-entry accounting system on accrual basis. Moreover, he introduced computerization of accounts with fully developed chart of accounts and accounting software with PTCL. He has to his credit at PTCL tariff rebalancing, introduction of activity-based costing for unbundling and product-wise profitability assessment for better interconnection facilities and efficiency management. He has been instrumental in major strategic initiatives of PTCL including SEA ME WE 3, proposed acquisition of Paktel shares from C&W UK, expansion of telephone network, Intelligent Network platform, and establishment of PTML and Paknet.



Member (Technical)

Naseem Ahmed Vohra was appointed as a Member (Technical) Pakistan Telecommunication Authority on 21st May 2003. Prior to his appointment as member, he was working as Director General (License Enforcement) in the same organization.

He started his career from Pakistan Telegraph and Telephone Department after graduating in Electrical Engineering from Institute of Engineers Pakistan. During the course of his service in PT & T (now converted into PTCL), he has held various positions in Transmission, Digital Switching outside plant, Training and Planning Wings of PTCL. With strong training background in Digital Switching from Germany, he remained involved in installation and commissioning of "Operation and Maintenance Centres" for Digital Exchanges. He is among the pioneers in Digitization of PT & T switching system. He has held various positions in maintenance and operation of Digital Exchanges as well as outside plant prior to joining PTA.

Corporate Structure

The Pakistan Telecommunication Authority's structure is being progressively reviewed to ensure that it is flexible enough to respond quickly to changes in the operating environment. Similarly with changing global telecom scenario due to trade liberalization local regulatory bodies are bound to meet unexpected challenges. The Authority is therefore, increasing its capacity for emerging challenges. A deregulation cell has been recently established to deal with the issues of deregulation. Following is a detail on corporate structure of PTA:

Finance & Tariff Directorate

Five sections are working under this directorate; Finance, Economic Affairs, Internal Audit and Tariff & Interconnect. This directorate performs budgeting functions, maintains accounts of PTA and arranges audit of accounts by Government auditors/chartered accountants. The directorate deals with financial evaluation of license applications.

Directorate ensures efficient handling of matters pertaining to tariffs and interconnection agreements of telecom service providers. It also deals with issues relating to cost unbundling of services, international accounting rate settlement, interconnect disputes between licensees, and consumer complaints pertaining to tariffs.

It also carries out economic analysis of telecom services & sector as a whole and maintains statistics relating to telecommunication and allied matters. Preparation of PTA annual report, quarterly report and status report is also the duty of this directorate.

Technical Directorate

The responsibility of this directorate includes framing standards for telecommunication equipment, arranging type approval of terminal equipment, analyzing networks and framing network standards. It prepares terms of reference for technical studies, manages numbering plan for Pakistan, carries out studies for new telecommunication approaches worldwide and evaluates standards of all telecommunication systems. It also deals with technical matters related to interconnect.

License Enforcement Directorate

Responsibility of License Enforcement directorate includes adjudication on the received applications, collecting/verifying and analyzing performance data from operators. It undertakes inspections to monitor Quality of Service (QoS) and telecom equipment, enforces license conditions, handles and resolves consumer complaints. It issues determinations and settles the disputes between operators. The directorate keeps follow up of court cases and implements Authority and court decisions. It is also responsible to arrange Central Advisory Committee meetings, as and when required.

Licensing Directorate

Licensing Directorate has two sections; one deals with basic telephony, value added and related services; and the other deals with licensing of radio-based services. The directorate

grants and renews licenses for any telecommunication system, service and radio based services. It also processes the applications for the use of radio frequency spectrum. The directorate is responsible to promote modernization of telecommunication systems and services, issues regulations for licensing of different basic and value added telecom services. Moreover, the directorate also coordinates and maintains liaison for radio monitoring, frequency interference and frequency allocation issues with Frequency Allocation Board (FAB).

Law Directorate

Law Directorate's mandate is to offer opinion and advice, to the Authority on drafting and vetting of licenses and regulations, evaluation of license applications, regulatory hearings, drafting of determinations, decisions and orders of the Authority. It represents Authority in courts. It also advises the Authority on all legal and regulatory issues such as implication of new enactment, government policies, introduction of new technology and its effect on the existing regulatory treatise, interconnection and dispute resolution between the licensees.

Administration

The Administration Department manages human resources of PTA and deals with matters including recruitment, transfer/posting, career planning, promotions, housing and welfare, disciplinary cases, appeals and termination etc. It also deals with personal documentation and confidential records, inter-office co-ordination matters relating to administration, fire fighting and security matters. The department manages PTA assets, movable and immovable property, equipment and transport.

Coordination

The Coordination Department of PTA acts as a secretariat to the Authority. It issues decisions of the Authority and takes follow up action. It also issues and implements directives of the Government and the Authority. Dealing with the Ministry (IT&T) on all matters in consultation with the concerned offices, keeping record of inspections and directives, and follow-up on implementation are also the responsibilities of the coordination department.

Training and International Liaison

This Department processes proposals and comments on matters related to ITU/Asia Pacific Telecommunity (APT) including conferences, meetings, preparatory courses, joint co-operation, seminars, and workshops. The section maintains liaison on international telecom related issues with renowned Telecom organizations. It also initiates proposals for foreign visits/training with approval of the Chairman and coordinates with other public sector bodies whenever required. It organizes and conducts meetings of foreign delegations with the Authority and other telecommunication and government organizations.

Public Relations

Besides looking after publicity and projection of the activities of PTA, the section regularly

provides feedback on the news reports, comments, criticism and reaction of the print and electronic media about the policies and programmes of the Authority. The section also responds to queries of media men about the activities of PTA and supplies requisite material to them.

The section arranges interviews and meetings of media men with the Chairman and senior officers of the Authority. The section issues press releases on important decisions of the Authority along with rebuttals, and clarifications for rumors and false reports. The section also undertakes publication of special reports and supplements on major activities of the Authority.

Compliant Cell

The cell handles complaints against telecom service providers through maintaining database of complaints for accurate and expeditious action. The cell is responsible for monitoring action on all complaints and obtaining progress from the concerned operators till completion or disposal of the case. Furthermore, the cell is responsible for maintaining close liaison with telecom service providers to ensure efficient complaint handling mechanism

Deregulation Group

Deregulation group is responsible for activities related to telecom De-regulation. Group adopts a proactive approach and initiates necessary preparations for the forthcoming De-regulation scenario. It also compiles the studies related to De-regulation assigned by Ministry of IT & T. Group analyzes experience of other countries and recommends strategies accordingly.

De-Regulation

- **Telecom Deregulation Policy**
- **Salient features of the Telecom De-regulation Policy**
- **Implementation of De-regulation Policy**
 - ◆ Consultation Process
 - ◆ Finalization of Licensing Documents
 - ◆ Media Campaign
 - ◆ Studies Conducted During the Year

Across the world, the telecom markets are moving away from monopolized market structures to more deregulated and liberalized ones. Pakistan in pursuance of World Trade Organization (WTO) commitments has stepped forward into the phase of deregulation; to develop infrastructure and attract investment in the sector; increase the quality of service and choices to the customers; and extend telecom services to the underserved areas. Government of Pakistan and Pakistan Telecommunication Authority, along with World Bank Consultants, have made concerted efforts to this end.

Telecom Deregulation Policy

The outgoing year witnessed deregulation related activities at their peak, within and outside the Authority. The Authority strenuously deliberated on devising strategies to implement and execute telecom deregulation policy.

IT & T Division circulated draft telecom policy prepared by World Bank Consultants. Consequently, series of meetings were held thereof and various simulation models on telecom policy were analyzed in detail. A pivotal point in the deregulation process was to seek approval of the Cabinet for the 'Deregulation Policy'. For this purpose, many pre-Cabinet meetings were held and various issues were discussed. On 2nd Nov 2002, Ministry of IT & Telecom circulated final draft of telecom deregulation policy. The document laid down broad principles of the telecom deregulation, setting out directions and guidelines. PTA offered its comments from time to time to the Ministry on the policy. Finally after numerous discussions and consultations, the Deregulation policy for Pakistan telecom sector was announced on 13th July 2003.

Salient features of the Telecom Deregulation Policy

The Policy is designed to achieve the objectives of increased service choice for customers at competitive rate, increased teledensity and expanded telecommunication infrastructure to unserved and under-served areas of Pakistan. According to the policy, fixed line telecommunication sector in Pakistan has been opened up and the exclusivity of PTCL in basic telephony has virtually been abolished. Under the policy guidelines, two types of licenses will be issued by PTA, Local Loop (LL) and Long Distance & International (LDI) licenses. Both the licenses are unrestricted and open. Anyone who so ever requests for license and meets the licensing requirement gets the license; subject to prescribed fee i.e., Pak rupee equivalent of US \$ 10,000/- for LL and US \$ 500,000 for LDI license.

The decision of award of license will be preceded by an open, public hearing process. In order to ensure that only serious applicants enter the market under this regime, stringent requirements of technical and financial capabilities will be incorporated in the licensing documents.

To provide level playing field to the operators and market forces to work, it is decided in the policy that tariff for both types of licensees (LL&LDI) will not be regulated, until they attain Significant Market Power (SMP) status. It is the responsibility of PTA to determine SMP in the sector and to regulate tariffs in case of evidence of unfair & burden some pricing to consumers. PTA is further entrusted upon to continue to regulate PTCL's rates and services, subject to price cap regulation scheme. Existing tariff rules will be in force until the policy is reviewed. For this purpose, PTA will prepare detailed pricing framework for fixed-line telephony licensees.

Policy has purposed that LDI licensee will be obliged to start roll-out by building at least one point of interconnect in five PTCL regions within one year of award of license and in all 13 regions within 3 years. Further, licensee is obliged to own 10% of the transmission system and cables comprising its network in the first year that would rise to 30% and 50% in respective years. Licensee shall provide a performance bond of US\$ 10 Million in respect of infrastructure and roll out targets. In case any LL licensee considers the prices of other licensee inappropriate, PTA has been empowered to resolve the dispute and impose cost based prices. Both licensees will pay fixed annual fee to PTA, which shall not exceed 0.5% of last year's gross revenues.

License may be cancelled if the licensee (LL and LDI) fails to meet license obligations, make use of allocated radio spectrum and rollout network within 18 months of the grant of license. To ensure competition, PTCL and other SMPs (determined by PTA) would be prohibited from abusing their dominant positions through anti-competitive conduct. PTA has been made responsible to investigate such allegations and take remedial measures against such conduct. A reasonable proportion of financial premium named Access Promotion Contribution (APC), that is generated through net incoming international traffic over the cost of conveying and terminating in Pakistan, would be used to promote the infrastructure expansion and it would be regulated by PTA. PTA will also audit and call detailed records and billing systems of all licensees to detect & eliminate the fraud.

PTA would determine interconnection prices by October 2003 for incumbent services. PTCL is obliged to prepare transit switches for interconnection and implement within 6 months. Moreover, it has to upgrade all needed transit switches according to the capacity orders submitted by new entrants.

PTA is also made responsible to determine Universal Service Fund (USF) rules, collection of funds from licensees and its disbursement within approved USF framework. These funds will be used for certain population and geographical area that remains un-served or relatively under-served. USF charge will be limited to maximum of 1.5% of gross revenue minus inter operator and related PTA/FAB payments.

Implementation of De-regulation Policy

PTA has adopted a proactive approach and necessary preparations are under way for the transparent implementation of the De-regulation Policy.

Following events are being undertaken to implement the Policy in a befitting manner.

- A. Consultation with the industry stakeholders on the implementation of De-regulation Policy.
- B. Finalization of Licensing Documents.
- C. Media Campaign.

A. Consultation Process

PTA has initiated a consultation process with industry stakeholders regarding implementation of De-regulation policy. Industry is being taken into confidence on the important phase of de-regulation i.e implementation strategy. For this purpose number of meetings were arranged with organizations/institutions including BOI, SDPI; Regulatory Authorities; and Ministry of IT & T.

B. Finalization of Licensing Documents

To execute telecom deregulation policy, a number of licensing documents have been finalized this year.

Memorandum of Information (MOI)

Draft Mol (Part I) that comprises of license application forms and evaluation criteria has been prepared. This document is under consultation. Basis for disqualification are included in the document along with requirements for technical, financial and business plan of the new entrants. MOI (Part II) will consist of supporting information e.g. co-location policy, Interconnection Guidelines, Reference Interconnect offer, APC regime etc. Documents are under preparation. This work is also under consultation. Once finalized, the same will be published.

List of topics covered in the MOI is placed at Appendix A.

C. Media Campaign

Extensive media campaign needs to be launched to attract the potential investors. There is need to write articles in the news papers. Comprehensive documentary is being prepared highlighting the key features of Telecom Deregulation Policy and investment opportunities in the sector.

Studies Conducted During the Year

Following key documentation, papers and studies were conducted during the year. In the forthcoming deregulation scenario, the Authority is making efforts to prepare itself for the transition and emergence of fair competition. In this regard, many consultation papers and studies were conducted during the year, apart from consultation papers related to ongoing regulatory issues.

Audiotex Service

A consultation paper on Audiotex service was issued to solicit opinion from the concerned stakeholders. The consultation paper discussed, revenue sharing arrangement between fixed-line and Audiotex service providers and the existing tariffs. It also proposed tariffs and minimum regulations to be followed by the fixed-line operators and service providers. These issues are still under consideration of the Authority.

Interconnection Guidelines

Existing Interconnection Guidelines were reviewed after the recommendations of the ITU experts engaged in the workshop, held in June 2002. After the draft is reviewed, it will be circulated to all stakeholders for comments and observations.

Cost Unbundling

PTCL is required to un-bundle its network elements and services on the principles of transparency, cost-orientation and allocation. The costs for access and transmission have been derived using Fully Allocated Cost methodology and using Historical Cost principle. The cost model and related documents have been submitted to the Authority for its review. The process will be completed with mutual consultation between PTCL & PTA.

Tariff Regulations

Tariff Regulations for fixed-line telecommunication operators were prepared and the draft consultation paper has been sent to Ministry of IT & Telecom, stakeholders and potential investors for comments. The draft has also been sent to the Deregulation consultants of Ministry of IT & Telecom for their opinion. The framework will be finalized after receipt of comments from the stakeholders and advice from the consultant MOIT.

Consultation Paper on Rural Telecommunication

A study was carried out on the "Rural Telecommunication in Pakistan" and a consultation paper was prepared and forwarded to various stakeholders to obtain their opinion/recommendation on the subject. Majority of the stakeholders have responded that the problem can be addressed by formulating short term and long term measures. As an immediate short term measure, areas having no communications at all, should be given priority for provisioning of basic telephone facilities. It could be through long-range cordless telephone PCOs, cellular mobile PCOs or rural radio telephony. Long term strategies should also be devised to increase the teledensity in the rural areas. Participation of government, telecom sector, NGOs and Banks etc. has also been suggested by the stakeholders to improve the telecommunication in the rural area.

Numbering Plan and SoQ

As part of the information to be provided to the potential licensees, numbering plan and related regulations are important components. Primary draft on numbering plan and SOQ was therefore prepared. The objective of SOQ is to describe minimum conditions for licensees to operate Long distance and International (LDI) and Local Loop (LL) telecom services. The applicants who do not fulfill required conditions, would be rejected without any further examination. However, the applicants who fulfill these conditions would be evaluated.

Access Promotion Charges Mechanism

A framework on access promotion charges has been prepared. It addresses the following issues:

- ◆ Agreement with Foreign Network Operators (FNO);
- ◆ Agreement with Local Loop and Cellular Operators;
- ◆ Receipts of payments from foreign network operators;
- ◆ Calculation of APC;
- ◆ APC and cellular mobile licensee;
- ◆ APC and local loop operators;
- ◆ Measurement and reconciliation of international incoming traffic records;

- ◆ Reconciliation of traffic records between LDI licensee and FNO'
- ◆ Billing and Settlement system;
- ◆ Reporting to PTA; and
- ◆ Audit of records and physical inspection

This framework shall be reviewed by the consultant of MOIT before finalization and implementation.

Framework for VPN

A study was carried out on Virtual Private Network (VPN). The objective was to enable licensees to establish a private network for the customers over a Facilities-Based Operator's ("FBO") international switching and transmission facilities or the Internet access facilities of a Services-Based Operator (SBO), for provision of telecommunication (including voice and data) services. The study also covers telecom needs of corporate/ closed user groups.

Numbering Administration

In the face of forthcoming competition era, some new operators are expected to be licensed to commence their services. According to the license awarded to PTCL by PTA in April 1997, the Authority reserves the right to assume the control and responsibility for administering the Numbering Plan. After the expiry of exclusivity period of PTCL, PTA has assumed control of numbering administration with effect from 1st January 2003 and the same has been communicated to PTCL.

The following numbers have also been allocated to different companies/ organizations as mentioned below:

- a) 4 digit telephone number 1331 has been allocated to M/s Maritime Security Agency, Karachi for search and rescue.
- b) Help-line 915 through mobile phone to access traffic control center.
- c) 4 digit code 1332 on country-wide basis to M/s Civil Defence Control Room of City District Government, Nasir Bagh, Lahore.
- d) 7 digit numbering plan has further been allocated to new cities and in the existing cities of operation to M/s Ufone and M/s Mobilink.
- e) Premium Rate Services (PRS) numbering plan 0900-666xx in order to facilitate its subscribers for Audio Tex Services.

Frequency Spectrum Planning & Spectrum Management

Radio spectrum is a unique natural resource shared by wide variety of services. Careful planning and flexible management is required to maximize its value for all services. A detailed draft on frequency spectrum in the light of deregulated scenario was prepared and forwarded to Frequency Allocation Board for their views/comments.

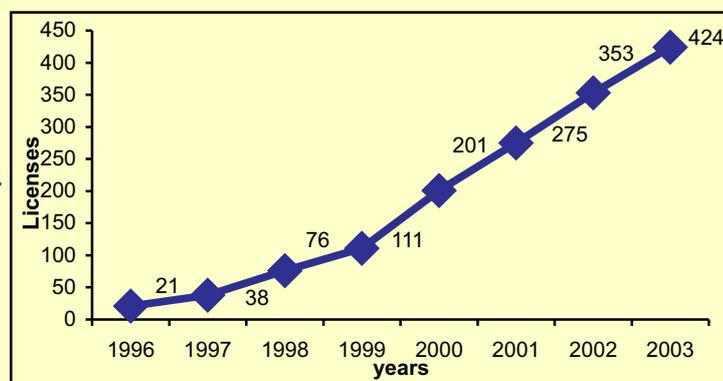
Anti-competitive Conduct Prevention

In the growing and rapidly transforming telecom markets; there are now at least three

Licensing Telecommunication Services and Equipment

- 80 licenses issued for value added services
- Reduction in Annual Renewal fee of Card Payphones, EIS, DCNS and NVCMS
- Reduction in initial license fee of store and forward fax service
- 90% discount on initial license fee for accredited educational institutions for providing internet services
- One CMT license issued to SCO
- Broadband Internet services shall be allowed to all ISPs
- One Video Conferencing License issued.
- Amendments in Card payphones, EIS, licenses as per determination issued.

Yearly increase in licenses



PTA has awarded a total of 424 licenses since 1996

Pakistan Telecommunication Authority under the Telecom Re-organization Act 1996, regulates the establishment, operation and maintenance of telecommunication systems and the provision of telecommunication services in Pakistan. PTA is responsible to issue licenses for both value added and radio based services.

The basic telephony services till December 2002 was domain of PTCL. Now with the announcement of Deregulation Policy, PTA will grant Licenses for Local Loop (LL) and Long Distance & International (LDI) services.

Licenses Issued

During the period under report, the licensing section issued eighty one licenses including Card Payphone Services, Electronic Information Services and Video Conferencing Services and CMT Services etc. Following is the break up of licenses issued by PTA during the period.

Table 1
Licenses Issued in 2002 2003

S. No.	Name of Service	No of licenses Granted
1.	Audiotex	2
2.	Card Payphone	56
3.	Electronic Information Services	15
4.	Store & Forward Fax Services	2
5.	Non- Voice Communication Network Services	4
6.	Video Conferencing Services	1
7.	Cellular Mobile	1

List of the licenses issued during the year 2002-2003 is available at Appendix-D.

Radio Communication Licenses

Radio based licensing covers Cellular Mobile Communication, Amateur, Aircraft, Ship & Coastal, HF/VHF/UHF Private Land Mobile/Fixed, Radio Trunking, GMPCS, Microwave, WLL, VSAT, point to point and point to multi point radio data networks and registration of satellite communication service providers. PTA receives applications for frequency allocations that is forwarded to Frequency Allocation Board (FAB) for allocation of frequencies and site clearance of the Radio base stations wherever applicable. On receipt of allocation of frequency spectrum by FAB, PTA processes and approves licenses, recovers license fees and spectrum charges as per approved tariffs.

The details of licenses, approved and awarded during the period of July 1, 2002 to June 30, 2003 are given below:

Table 2
Radio Based Services Licenses

Name of Services	Approval	New license issued
BTS Site clearance	493 Sites, including pending cases	-
SST Links Site clearance	62 site	-
HF/VHF/UHF Private Land Mobile/Fixed	-	22
Satellite Registration/Permission	05	05 Satellite companies registered with PTA
Inmarsat/Satellite Phones	-	06
Amateur	-	12
CMT Licenses	1	1

Licensing directorate in addition to issuance of licenses also participates in policy making for major issues involving licensing and regulation of licensees. Major policy issues regarding licenses are given as under:

1. Provision of DSL Services to all ISPs

To promote the broadband Internet services in the country, PTA has taken the decision in response to appeal rendered by PTCL. The Authority directed PTCL to make agreements with the ISPs for the provision of DSL services under the following conditions:

- i) All the licensed ISPs having POPs in at least two cities and an experience of running Internet business for minimum of two years are allowed to provide the DSL service.
- ii) PTCL allowed to fix monthly loop charges for Rs 670/-
- iii) The invitation of applications will be requested by PTCL for the provision of DSL services to its customers.
- iv) Conditions for the POPs and experience of the ISPs in running the business shall be relaxed subsequently to ensure the growth of the DSL services.
- v) Moreover, PTCL would not charge any bank guarantee from the applicants.

2. Establishment of Second Submarine Cable landing Station in Pakistan

PTCL requested the Authority for the approval of establishment of second submarine cable landing station in Pakistan. Currently, PTCL has only SEA ME-WE-3 submarine optical fibre cable system landing in Karachi. Due to single landing point, international connectivity remains vulnerable to cable cuts and equipment's faults which subsequently lead to outages *inter-alia* unreliable international connectivity services. The new cable system will connect countries in South Asia, Middle East and Europe. The system is currently under planning and will be built by using DWDM technology with a

proposed capacity of 1.2 Tera bit/sec. This cable system is planned to be ready for service in 2005.

PTCL arranged a briefing on the proposed project within the Authority. The Authority after analysing the new submarine cable system, accorded approval for 2nd Submarine Station subject to NOC from ministry of IT & T.

3. Video Conferencing in Pakistan

To promote the availability of wide range of high quality, efficient, cost effective and competitive telecommunication services throughout Pakistan and to promote rapid modernization of telecommunication systems and telecommunications services, video conferencing system was introduced in Pakistan. First license to establish, maintain & operate Video Conferencing in Pakistan was issued to M/s Universal Communication System (Pvt.) Ltd.

4. VSAT Connectivity

On the special instruction of the Ministry of Science & Technology (IT& T Division) standard operating procedures for establishment of international VSAT connectivity for IT enabled services under PTCL franchise were prepared and placed on PTA web site for public information.

5. GSM License to M/s Special Communication Organization.

License to operate GSM Cellular Mobile Telephone System in AJK & Northern Areas has been issued to SCO in May 2003.

6. Modification in M/s Paktel License.

On the request of M/s Paktel, the Authority modified the existing M/s Paktel license and granted permission to migrate from AMPS to EGSM. M/s Paktel will start new service on confirmation of use of required frequencies by FAB.

7. Frequency Spectrum Planning & Spectrum Management.

Careful planning and flexible frequency spectrum management is required to maximize its value for all services. A detailed draft on frequency spectrum in the light of deregulation scenario was prepared and forwarded to Frequency Allocation Board for their views/comments.

8. SOP for GMPCS License.

PTA has already issued GMPCS regulations, however, now to facilitate the applicants, a Standard Operating Procedure (SOP) has been evolved on GMPCS. The SOP describes terms and conditions, information and documents required to be submitted by the applicant for GMPCS license. Application form required in this regard has also been attached with the SOP. The SOP will be available on PTA web site after vetting by the legal wing and Authority's approval.

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9. Nationwide License for ADSL

M/s Brain Net requested for nationwide license for ADSL. It was decided that license for ADSL is not required. Interested parties, however, may sign O&M contract with PTCL. PTCL was directed to intimate tariff imposed on ADSL for approval by the Authority.

Incentives Given to Service Providers

The Authority has reduced the annual renewal fee of Card Payphones, EIS, DCNS and NVCMS to promote the IT & Telecom services. PTA has given a number of incentives to private sector. It has reduced the initial license fee of Store and Forward Fax Services and 90 percent discount on initial license fee from accredited educational institution for providing Internet services to their students and teachers. The main incentives for Initial license fee, Annual License fee and Royalty of telecom services are placed at Appendix-B.

Type Approval

Under the Telecom (Reorganization) Act 1996 (section 29), no terminal equipment can be directly or indirectly connected with PSDN unless it has been type approved by PTA. Main purpose of type approval is to ensure that users of the telecommunication equipment in the country are getting standard equipment from telecommunication companies and market. Type approval of terminal equipment is important to ensure that equipment can work properly without causing interference when it is connected to a particular network. Type approval granted by PTA signifies that particular telecommunication equipment is approved for general sale and is suitable to connect with a specific public telecommunication network.

Following equipment have been type approved during the period from July 2002 to June 2003.

		Table 3 Type Approved Equipments				
S. No	Name of Equipment	1 st Quarter July-Sep. 2002	2 nd Quarter Oct.-Dec. 2002	3rd Quarter Jan.-Mar. 2003	4th Quarter April-June 2003	Total
1	PABX	04	01	03	05	13
2	Telephones Sets	03	06	00	00	09
3	Cellular Mobile Phone	05	00	00	00	05
4	Fax Machine	03	01	02	06	12
5	Card Pay Phones	00	01	01	00	02
6	LPU	00	00	02	01	03
7	Dect Phone	04	00	00	00	04
8	Misc.	06	02	05	15	28

Simplification of Type Approval Procedure

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Simplification of Type Approval Procedure

Law & Regulation

- Show cause notice issued to M/s PMCL (Mobilink) on Quality of Service
- Other network access charges by M/s PMCL (Mobilink) removed
- Direct interconnection among cellular mobile operators and inter operator SMS
- Determination issued on net to phone VoIP services

Powers conferred to PTA and its functions under Telecom Re-organization Act 1996, call for an over all policy framework that benefit not only the service providers but also the consumers. All this requires efficient planning and decisions on disputes in an open, fair non-discriminatory and transparent manner. Developing and amending existing laws and regulations play a pivotal role to achieve these objectives.

Following briefly highlights the legal and regulatory areas in which PTA remained busy during the year.

Amendments in the Act

PTA was established in 1996 under the Pakistan Telecommunication (Re-organization) Act, 1996. The Law Directorate in the past year has identified various anomalies in the Act. These anomalies create many problems and difficulties for the Authority regarding performance of its functions. To remove such anomalies from the Act, the Law Directorate is working on a draft amendment bill, which shall remove the inconsistencies and ambiguities from the Act. The exercise was also felt necessary due to the announcement of deregulation policy which demands some mandatory amendments.

Fortifying Telecom Service Regulations

There are various regulations, which have been amended, vetted and updated by the Law Directorate, which are given below:

- Pakistan Telecommunication Authority (Functions & Powers) Regulations, 2000.
- Pakistan Telecommunication Authority Service Regulation, 2000
- Type Approval Regulations, 2002
- Internet over Cable Regulations, 2001
- GMPCS Regulations, 2003
- Audio Tex Services Regulations, 2002
- Vehicle Tracking System Regulations,
- Card Pay Phone Regulations
- Burglar Alarm System Regulations, 2002
- Non-Voice Communication Net Work Regulations, 2001

Employees Service Regulations

The Authority, under sub-section (3) of section 10 of the Act, is empowered to make regulations for appointment, promotion, termination and other terms and conditions of employment of its employees. The crucial task of providing Service Regulations to PTA employees was outsourced. However, the Authority has played very important role in accomplishing this task. These Service Regulations will enhance efficiency and job security viz a viz financial benefits. It is expected that it will come into operation very soon.

Regulations for Registration of Satellite Service Providers in Pakistan

Regulations for satellite service provisions were prepared and placed at PTA website after getting necessary approval from the Authority. In light of these regulations, service providers will not require

to get satellite license from PTA. However, they are only required to register their satellite (without any registration fee etc.) within Pakistan and provide the satellite space segment to the licensed operators for telecom services.

Amateur Radio Services Regulations 2003

Detailed regulations on Amateur Radio Services have been prepared. The said regulations cover the eligibility conditions of the license, the examination to be conducted, fee for license, termination of license, status of portable and mobile operation. Issues relating to change of location, issuance of duplicate license, cancellation of license, log book and frequency plan etc have also been discussed. This will help in streamlining all issues relating to Amateur Radio Services.

Regulations on Billing Detail for Prepaid Customers

Regulations on billing detail for prepaid mobile customers were developed with the motive to facilitate prepaid customers. Although, prepaid customers are not supposed to receive any bill or call details for their usage. They can however, find out their account balance / unused amount through online mechanism provided by the service providers. Owing to the shortcomings in this mechanism, the Authority received several complaints regarding incorrect / excessive deductions of prepaid customers. In this regard, following regulations were proposed that shall be modified and implemented after taking into consideration the response from the service providers:

- i. The service providers shall keep billing and charging information database of their prepaid customers for at least two months.
- ii. Whenever, a prepaid customer feels that he has been charged excessively, he can approach the Authority within 15 days from the month end. This service shall be provided free of charge.
- iii. The prepaid customers can also approach their service provider for billing detail of their account within 15 days from the month end. The service provider may charge up to Rs. 25 for this detail. The details shall include all those calls and value added services for which service provider has charged a sum. In case, any discrepancy is found in the charges, the service provider shall be obliged to repay billing charges.

Guidelines for Establishment of Satellite Earth Station

Guidelines, regarding establishment of Satellite Earth Station by the Foreign Missions such as embassies/consulate offices had been prepared. Application form for grant of license/permission for use of Inmarsat terminals were also formed.

Guideline for International VSAT Connectivity for IT Enabling Services

On the special instruction of the Ministry of Science & Technology (IT& T Division) standard operating procedures for establishment of international VSAT connectivity and IT enabling services under PTCL franchise were prepared and placed on PTA web site for public information.

Determinations

This year PTA issued number of determinations to its licensee on different issues. However, major determinations were issued to the Mobile cellular operators. In this regard maximum number of determination were issued to M/s PMCL (Mobilink) on different issues and complaints.

Determination on Pakistan Mobile Communication (Private) Limited (Mobilink) Case

Pakistan Telecommunication Authority passed a determination against M/s Mobilink on 6th June 2003. Determination was based on the provision of poor Quality of Service (QoS) to its customers. To test the QoS, the Authority conducted two surveys:

- (i) the first survey was carried out during May, June 2002; and
- (ii) the second survey was conducted between 6th January 2003 and 8th February 2003.



After scrutinizing the complaints and results of QoS survey, the Authority issued a show cause notice to the company, which was followed by a public hearing on 2nd June 2003. It was concluded in the hearing that the company had failed to provide its customers QoS in accordance with the terms and conditions of the license, the Act, the Rules and the Regulation. Therefore, the Authority imposed a fine to the tune of Rs.60 million, which was decided to be distributed among the subscribers. In addition to this compensation it was also decided that a joint survey would be conducted to determine all aspects of QoS of mobile operators after 6th September 2003.

“Other Network Access Charges” for Local Calls levied by M/s PMCL (Mobilink)

Pakistan Mobile Communication Limited (Mobilink) introduced “Other Network Access” charges on local calls, since February 2002. The Authority took cognizance of the issue and felt that these charges were levied without proper justification and due notice to the subscribers. M/s Mobilink was asked to explain the reasons and justification for this charge. The Authority observed that Mobilink did not have sufficient justification for levying the “Other Network Access charges” in addition to airtime. Therefore, the Authority decided that Mobilink shall withdraw the “Other Network Access Charges” levied on their local calls w.e.f 4th February 2002.

Payphone-To-Mobile Call Charging Under CPP Regime

Due to introduction of CPP regime in the mobile sector, the payphones operators needed metering pulse to charge local mobile calls according to the tariff determined by the Authority for such calls. PTA issued a tariff determination on 12th June 2002 on payphone charging mechanism to address the above issue. The Authority decided that it would review the arrangements proposed in the said determination after three months to assess that no party suffers any loss substantially. The Association of Card Payphone Operators of

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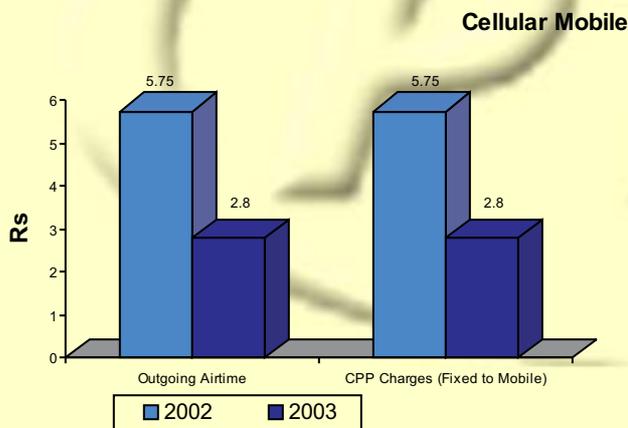
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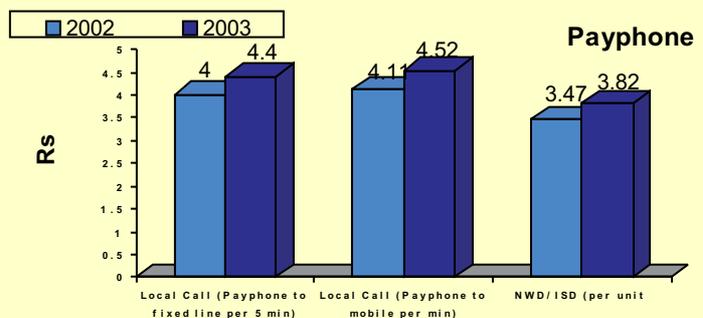
Tariff & Finance

- GMPCS tariff approved
- Annual accounts of the Authority



To increase mobile penetration in the country PTA has reduced mobile

Decrease in tariffs of payphone is done with the objective of making the facility affordable to all.



Regulation of telecom tariffs is one of the core responsibilities of the Authority. Pakistan Telecommunication Re-organization Act 1996 under section (26) empowers the Authority to regulate telecom tariffs. To exercise its powers, the Authority devises criteria to examine, determine tariff proposals for new and existing services. The need for tariff rebalancing occurs because operators do not rationalize their tariffs regularly. PTA issues determinations on tariffs of the telecom services, to ensure that the tariffs of the services are cost based and have reasonable rate of return.

PTCL Tariff Rebalancing 2002-03

During the year, PTCL submitted its Tariff Rebalancing proposal on 4th June 2002 requesting the Authority to approve the price caps for the year 2002-03. PTA, after reviewing and evaluating the proposal, rejected the increase in tariffs on the grounds of safeguarding consumers interest. Similarly, under the provisions of PTCL license, any tariff proposal submitted before 12 months, since the last review, could not be considered. The proposal therefore was returned.

GMPCS Tariff Approval

PTCL submitted the proposal for GMPCS Tariffs. After making comparisons with some selected comparable countries where Thuraya service is available, the Authority approved following tariff ceilings (These ceilings are excluding taxes and duties):

Table 4
GMPCS Tariffs

Description	Tariff Ceilings US \$	
	Postpaid	Prepaid
Activation Fee	30.00	
Monthly Rental Fee	14.00	
Call Charges (Per Minute)	Postpaid	Prepaid
Thuraya (Pak) to Thuraya	0.51	0.64
Thuraya (Pak) to PSTN/PLMN	0.67	0.83
Thuraya (Pak) to PSTN outside Pakistan	0.75 - 1.47	0.93 - 1.81
PTCL to Thuraya	1.00	

These charges will be payable in Pak. Rupees by the users at Inter-bank exchange rate applicable on the date of payment of the bill.

Rationalization of Payphone Tariffs

Minister of Information Technology & Telecommunication approached PTA to rationalize payphone tariffs. Subsequently, PTA requested all stakeholders to come forward with their proposals so that the objective of rationalization of payphone tariff can be achieved. A series of meetings were held at PTA headquarters in which both payphone and PTCL gave their suggestions for rationalization of payphone tariffs. The Authority will be issuing a determination shortly keeping in view the suggestions/proposals given by payphone operators and PTCL.

Finance

The directorate analyzes and evaluates audited annual accounts of the licensees; determine the

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annual fee and royalty payable on the license. It can also raise claims against the licensees after counter checking of the accounts. Moreover, recovery of receivables and submission of report to the management is also a major concern of the Authority. During the year, many financial issues were dealt which are as under:

Annual Accounts of the Authority

During the current year, the accounts department of the Authority has been quite busy in preparation of financial statements of the Authority. The Authority has installed new computerized accounting software for timely preparation of final accounts and for efficient management reporting. The staff worked day and night for data entry, system testing and buging which enabled the Authority to switch over from existing manual system to computerized system in a very short period.

It is first time in the history of PTA that the final accounts have been prepared and got audited within three months of the close of financial year i.e. by 30th September. All credit goes to the telecom and new management who made concerted efforts to make it a success. The Accounts of the Authority for the year 2002-2003 are placed at Appendix-F, however, a brief is shown below:

Table-5
Financial Highlights

Items	2003	2002	(Rs Million)
			% Change
Addition to Fixed Assets	21	15	40
Staff Advances	13.5	12	12.5
Receivables	118	277	(57.4)
Cash and Bank	628	554	13.3
Due to Federal Government	386	340	13.5

Table-6
Operating Highlights

Items	2003	2002	(Rs Million)
			% Change
Annual License Fee	574	738	(22.2)
Initial License Fee	22	81	(72.8)
Salaries and Allowances	73	67	8.9
General Overheads	49	37	32.4
Excess of Income over Expenditures	489	722	(32.7)

Annual revenue from license fee has declined considerably due to reduction in the rate of annual fee by the Authority. This step was taken to promote the sector and to induce maximum fresh investment in the telecommunication sector.

Provision of Accounts/Financial Statements by Cellular Mobile Telephone Operators (CMTOs)

Under the Pakistan Telecommunication (Re-organization) Act, 1996 terms and conditions

annual fee and royalty payable on the license. It can also raise claims against the licensees after counter checking of the accounts. Moreover, recovery of receivables and submission of report to the management is also a major concern of the Authority. During the year, many financial issues were dealt which are as under:

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			% Change
Annual License Fee	574	738	(22.2)
Initial License Fee	22	81	(72.8)
Salaries and Allowances	73	67	8.9
General Overheads	49	37	32.4
Excess of Income over Expenditures	489	722	(32.7)

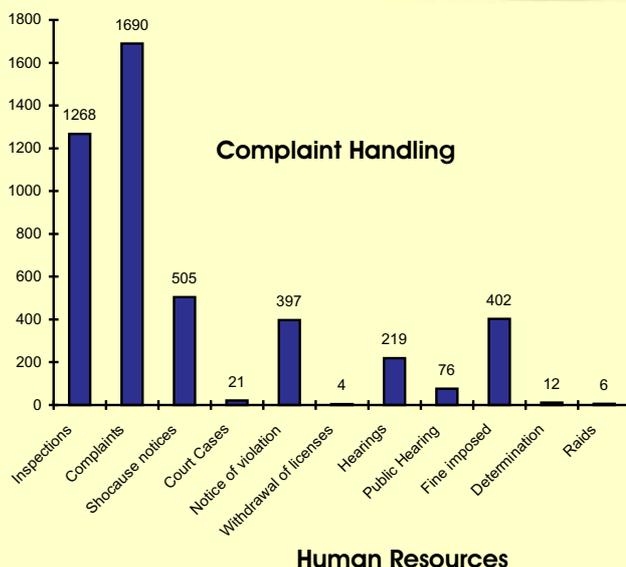
Annual revenue from license fee has declined considerably due to reduction in the rate of annual fee by the Authority. This step was taken to promote the sector and to induce maximum fresh investment in the telecommunication sector.

Provision of Accounts/Financial Statements by Cellular Mobile Telephone Operators (CMTOs)

Under the Pakistan Telecommunication (Re-organization) Act, 1996 terms and conditions

Safeguarding the Consumer's Interest

- Consumer Protection
- Consultation
- 5th Regional Advisory Committee Meeting
- Quality of Service Survey of CMTOs and ISPs
- Open Forum on Rural Telecommunication Development
- 1691 Complaints Dealt by PTA
- Seminar on Frequency Allocation and Spectrum Management
- Seminar on VoIP
- Tariff Booklet issued



Consumer safeguard & curbing anticompetitive practices by operators are prime objectives of PTA. To this end it receives and redresses huge number of complaints every

Consumer Protection

It is well evident fact that consumer protection is a key consideration in the introduction of competition to telecom markets. This dynamic market imposes particular challenges that may not be met by the general consumer protection laws. The Authority is thus entrusted to carefully safeguard the consumer rights/interests.

According to the telecommunication Reorganization Act 1996, it is the responsibility of the Authority that the interests of the users of the telecommunications services are duly safeguarded and protected. As a result, PTA has developed consumer safeguard measures to improve telecommunications service to all consumers, including consumers living in rural and remote areas. Also PTA is working towards increasing



consumer confidence in service reliability and performance. This has been done in number of ways; firstly, by consulting the industry and customers on the important issues, to ensure the transparency in decision-making. Secondly; by conducting investigations and surveys to monitor the sector performance and to ensure that the customers are getting quality services. Thirdly; by informing the community about the matters related to the industry.

Consultation

Under section 6(d) of the Act 1996, Authority is bound to consult the consumers in the related matters. For this purpose, it has developed a system of advisory committees in all the PTA regional offices, with basic objective to discuss the issues of the public interest. Moreover, many forums are organized to solicit the views of the general public before making any decision.

5th Regional Advisory Committee Meeting

The 5th meeting of regional Advisory Committee, Lahore region was held on 8th February 2003. Various important issues concerning telecom sector were discussed during the meeting. Director Tariff made presentation on Tariff and covered topics of tariff regulations of different services of telecommunication like basic telephony, cellular mobile, payphone, wireless local loop, internet service, GMPCS and Audiotex service. DG (LE) apprised the committee about QoS survey of mobile market.

Public Forums

Three forums were conducted this year to hear the views of the general public. One was related to quality of service of the mobile operators and others were on technological shift of M/S Paktel and Rural telecommunications. Details of these forums are as under:

Quality of Service of Cellular Mobile Telephone Service

An open forum on performance and growth of cellular mobile industry in Pakistan was organized by PTA regional office Lahore on 17th June 2002. The focus of the forum was to assess the performance of mobile telephone industry and form a strategy for future, with the discussion and opinion of all stakeholders. A presentation was made on cellular mobile telephone tariff. It was

decided that future strategy will be devised, keeping in view the questions and feedback of the users of the cellular mobile service in the forum.

Rural Telecommunication

An open forum on Development of 'Telecommunication in Rural Area' was held on June 25, 2003 in Islamabad. It was attended by all stakeholders including CMT Operators, PTCL, SCO, Pay Card Payphone Association and other representative from telecom sector. Various NGOs, Banks and people from other walks of life also participated in the forum. The Honorable Minister of IT&T chaired the forum. Number of presentations were made on access to the rural area, technologically and otherwise. Towards the end of the session there was an open discussion, number of ideas were floated in the brainstorming session. In light of the suggestions, PTA will be devising the strategy for provision of telecommunication the in rural areas of Pakistan.



Migration of M/S Paktel from AMPS to GSM in EGSM Band:

M/S Paktel limited requested PTA for migration in EGSM, since the operator is the only one providing service with AMPS technology in Pakistan. To get the public opinion, a public forum was arranged on February 25, 2003 at PTA Headquarters, Islamabad. The participants supported the migration and appreciated PTA's efforts in provisioning better services to public and in expansion/development of telecom sector.



Investigation

License Enforcement wing is responsible to protect customers from undue exploitation of the service providers and analyze such issues. In this regard, the section makes inspections, receives complaints, conducts hearings and issues show cause notices on violation of license conditions and illegal activities. To serve the purpose, many surveys were conducted to investigate the quality of service provided by the operators.



During the year, a total of 1394 inspections were carried out and 1691 complaints were dealt, 535 show cause and 397 notices of violation were issued, 254 hearing and 76 public hearings were conducted, 402 fines were imposed on the service providers and 4 licenses were withdrawn. Detail of these finding are shown in the Table below:

Table 7
Complaint Handling

	Mobile	PTCL	ISPs	CPP	Others	Total
Inspections	112	53	47	1182	7	1394
Complaints	243	653	77	718		1691
Show cause notices	1		16	377	141	535
Court cases			6	5	11	22
Notice of violation			397			397
Withdrawal of licenses			4			4
Hearing		17	2	95	140	254
Public Hearing				74	2	76
Fine imposed				402		402
Determination				11	1	12
Raids			1		5	6

Surveys

PTA is facilitating / guiding and pursuing all the services providers to provide efficient, trouble free and affordable services to their subscribers. For achieving this, PTA LE Directorate through its Regional Offices at Peshawar, Islamabad, Lahore, Karachi and Quetta conducts surveys for all major service providers to include Fixed line, Mobile and Internet Service Providers from time to time throughout the year. Service wise details on these activities conducted during the year are as under:

Pakistan Telecommunication Company Limited

Presently, reliance of the entire IT & T industry is on PTCL Infrastructure, being the sole IT & Telecom infrastructure provider in Pakistan. Realizing this importance and preparing the incumbent operator to improve its QoS, PTA is pushing PTCL hard. Apart from this, PTA is making deliberate efforts and is conducting technical inspection of various PTCL exchanges (incumbent operator) through its Regional offices located at major cities of the country i.e Rawlapindi, Lahore, Karachi, Quetta and Peshawar to prepare PTCL for liberalization environment in near future. The performance of these exchanges was assessed keeping in view parameters like new connections provided, shifting of telephones, billing errors, complaints, faults / interruption and services being provided to general public. Based on these results PTCL is being pursued / pushed for betterment of the industry as a whole and for its own survival where it will face stiff competition from new entrants / giant telecom operators.

Second Quality of Service Survey on Cellular Mobile Telephone Operators

As a part of PTA's continual efforts towards high levels of services for telecom consumers, second survey on cellular mobile networks performance was conducted this year. Methodology was mutually agreed by operators and the Authority. Survey mainly focused on Quality of Service aspects of cellular networks, such as service coverage, voice quality, call success and retainability. Total 8 cities and 4 high ways were covered in the survey. Regional offices of PTA conducted this survey with the help of CMTO representatives and officers from PTA headquarters.

officers from PTA headquarters.

The procured data during survey was logged in log sheet duly signed by PTA officials and CMTO engineers. After processing the data, it was concluded that the services are not up to the Quality of Service standards as per license conditions (Call success rate 97 percent, 3 percent blocking in switching). Thus show cause notices were issued to the four operators for providing the poor quality of service by PTA.

M/S Mobilink being the significant market power operator, with more than 25 percent market share, was issued the 1st show cause notice. A public hearing was called by the Authority and after deliberations and detail discussion, the company was panelized of Rs. 60 million. The amount was asked to be distributed among the 1 million customers of Mobilink. Three show cause notices have been issued to the rest of three CMTO's as a consequence of their poor quality of services.

Quality of Service Survey of ISP's

To check the quality of service of ISPs, a series of surveys were planned. In this regard, third quality of service survey was conducted from Oct-Dec 2002 in 27 major cities of Pakistan. All the ISPs were tested from the customer angle and six attributes were recognized for the testing of the ISPs; i.e. accessibility, serviceability, connectivity, modem connectivity rate, downloading time, retainability/sustainability. Overall in these parameters, the performance of WOL turned out to be above average in Lahore, Karachi and Islamabad, whereas Compunet, Sprcom, RabtaOnline, Wcolnet and Cubex were found to be below average among these cities. Similarly, the ISPs in other cities were also graded and the results were published. Results of 5 major ISPs are shown in the Graphical illustration below:

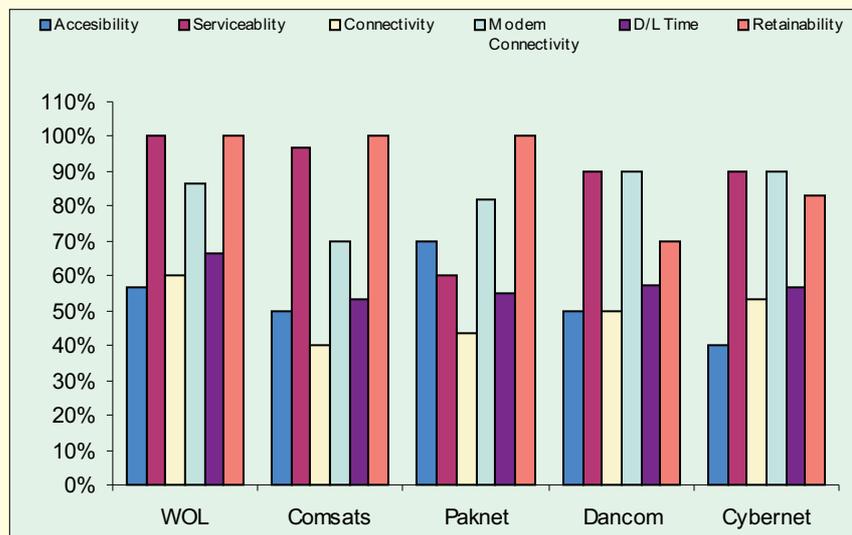


Figure 3
Results of ISP Surveys

Information Dissemination

The success of the regulatory effectiveness lies in the well-informed consumer base by providing information about the matters related to the Authority and the industry. This goal is attained in

number of ways; by reporting industry's and Authority's performance, organizing seminars, and publishing booklets, etc.

During the year 2002-2003, strenuous efforts have been made to project and publicize programs and policies of the Authority both in print and electronic media. For this purpose, the Authority issued forty five press releases to highlight activities of PTA and nine rebuttals/clarifications to dispel false reports and clarify factual position about PTA's decisions and policies. Total forty one interviews of the Chairman and senior officials of PTA focusing on various aspects of the Authority were also arranged with the print and electronic media. Moreover, nine messages and six speeches were also drafted for different occasions. In addition to this, publication of forty seven articles projecting different aspects of PTA was undertaken in the national dailies and periodicals. The Authority made appropriate arrangement for the coverage of eighteen seminars/forums/workshops and other important events, besides four Press conferences/briefings of the Chairman. Four favorable editorials were also brought out by the dailies. Moreover, sixty two PTA advertisements were released during the year.

Seminar on Frequency Allocation and Spectrum Management.

The radio spectrum is a unique natural resource shared by wide variety of services. Careful planning and flexible management is required to maximize its value for all services. In order to evolve a transparent and efficient frequency allocation procedure, a seminar was arranged on Frequency Allocation and Spectrum Management on 4th September, 2002. Representatives of telecom industry and the stakeholders attended the seminar. Following issues were explained/discussed:



- Spectrum Allocation Procedures
- Efficient use of spectrum
- Band plan & usage
- Spectrum & Frequency issues

Seminar on Voice Over Internet Protocol

Voice over Internet Protocol (VoIP) is an emerging technology and PTA is committed to promote the latest technologies. Therefore, PTA took the initiative to arrange a seminar on December 12, 2002 in which all the stakeholders including consumers, telecom incumbent operator (PTCL) and ISPs were invited. Chairman PTA informed the audience about the incentives being provided by the Authority to the private sector. In light of the deliberations arrived at during the seminar, PTA prepared recommendations for submission to the Ministry for issuing policy on the subject.

Telecom Day Seminar & Exhibition

All four regional offices of PTA celebrated telecom day and organized seminars in local hotels. Besides this, Lahore and Karachi regional offices also organized exhibition of telecom operators on the occasion. Governor Punjab and Governor Sindh attended the seminar along with local dignitaries, operators and consumers of telecom services in the respective regional offices. The speakers on the seminars enlightened the house with their

thought provoking views on socio-economic impact of telecommunication sector. Luminaries of telecom, business and financial world attended the seminars. Many telecom and IT companies participated in the exhibition and established their stalls to promote their products. Due coverage was given to the event by national and local media. Four electronic news channels including PTV, GEO, Indus and Telebiz along with Radio Pakistan covered the event and broadcasted PTA Chairman's views on the occasion.



Reports

Pakistan Telecommunication Authority in order to keep GoP, telecom consumers and general public well informed about the telecom sector of Pakistan; prepares the Quarterly Reports and Annual Report every year. These reports depict the progress of the Authority in general and different sections activities in particular. Similarly, it also issues an annual Status Report that gives an overview of local as well as international telecom sector.

Quarterly Reports

Three quarterly reports were prepared this year, covering performance of all the sections for July-Sep, Oct-Dec and Jan- March. These reports give synopsis of the activities that each section performs during a quarter.

Annual Report

Under the Telecom (Re-organization) Act, section(18), PTA is required to submit progress report of the Authority to the Cabinet, Government of Pakistan, every year before 30 September. In this regard, PTA publishes its Annual Report that covers the activities, achievements and progress of the Authority. Issues relating to telecom industry, number of licenses issued, new technologies, telecom consumer protection initiatives and studies conducted by PTA are some areas that are included in the Annual Report.

Annual Report 2001-02 was published this year to make the information available to all concerned. Number of copies have been sent to all stakeholders, major IT personals, and leading universities around the world.

Status Report

Telecom Status Report is a regular publication of the Authority. The report is prepared to give an overview of the sector to telecom experts, consumers, businessmen, students and educationists. The report gives an overview of local as well as international trends in telecommunication. Analysis of different

telecommunication services along with financial and technical analysis of telecom sector of Pakistan is a regular feature of Telecom Status Report.

The Telecom Status Report 2001-2002 was published and presented by PTA this year. The report contained all important telecom indicators of Pakistan as well as other Asian countries.

PTA Booklet

A comprehensive booklet comprising brief description of the Authority has been prepared to provide updated and handy information about the Authority in the recent deregulation scenario. It provides glimpses of PTA role and activities, its objectives, functions and powers as well as organizational structure.

Tariff Booklet

The tariff booklet for the year 2002-2003 was published, containing tariffs of different telecommunication services Viz.; Basic Telephony, Cellular Mobile, Card Payphone, Electronic Information, Non-Voice Communication Network, Trunk Radio, Satellite Communication and Global Mobile Personal Communications by Satellite. Without prejudice to the reservations, which the Authority may have in respect of different tariffs, the objective of the tariff booklet was to compile the tariffs of different telecom services in a single document for reference and convenience of researchers, telecom service providers and general public.

Licensing Database

A database for licensing has been prepared this year. The information includes list of PTA services/fee schedule, list of all licensees, list of National level licensees and list of operational and non-operational licenses.

Up Gradation of Deregulation Data Room

This year PTA focused on up gradation of deregulation data room. New hanging cabinets were built to display the deregulation data in a more systematic and organized manner. Hard/soft-copies and CD's of all the deregulation related documents are available in data room. Data room is established at PTA to facilitate potential investors and provide one window operation.

Cellular Mobile Telephony Service Data Base

A Special team was established in the PTA to collect information for Cellular Mobile Telephony (CMT). The team initiated to setup a database containing information about CMTOs, their rollout plans and other relevant information, which was initially not available to PTA. The data comprises information regarding districts, Tehsils, CMTOs coverage, main highways connecting district headquarters. Such a data bank will help PTA in Roll Out evaluation of telecom sector of Pakistan.

Blocking of Unethical Web-Sites

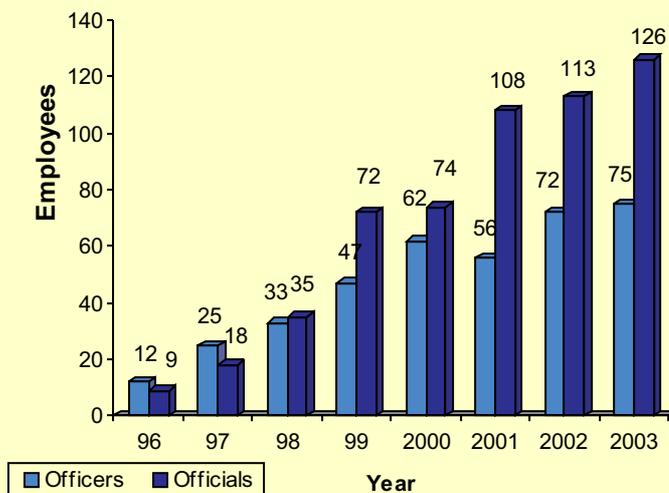
Ministry of IT and Telecom had issued a directive urging to block all unethical sites. Complying the instructions of the Ministry, PTCL blocked most of the sites at the gateway routers. M/s. Cybernet and M/s. Comsat, enjoying Internet connectivity through IPLC, were issued notices by regional office, Lahore to block the un-ethical sites at their core routers. A list of unethical sites was also provided. Both the ISP's have forwarded their compliance to the instructions of this office confirming blocking of the unethical sites.

Cyber Security-Guidelines

The recent DoS/DDoS attacks on our IT services created a difficult situation for the government owned websites and their computer networks. There are several reasons for these attacks; mainly due to the vulnerabilities found in the existing telecom setup of service providers that are hosting these websites. Guidelines have been developed and distributed among all the government agencies and ISPs for implementation, so as to make websites and computer networks secure. These guidelines mainly discuss the system and application level security techniques helpful in practical implementation within a wide range of networks.

Improving the Organization and Managing Resources

- The Authority completed with joining of Member (Finance) and Member (Technical)
- Two officers deputed to TRA Oman
- Authority accorded high priority to enhance capacity building
- Pakistan won council membership of ITU and a seat in Radio Regulation Board
- PTA conducted trainings on



PTA started its journey in 1996 with only 12 officers & 9 supporting staff. Today it has 75 officers & 126 supporting staff.

Rapid transformations in the telecom sector have created considerable pressure on the regulator to develop a tailored skill-set for its human resource. This human resource hence, requires widened vision and strong knowledge base before any major shift in technology and market structure.

The Authority, therefore, endeavored to provide maximum knowledge and skills to its employees from limited training opportunities being offered by the International and Regional Organizations such as International Telecommunication Union (ITU), Asia Pacific Telecommunity (APT), Japan International Cooperation Agency (JICA), South Asian Forum for Infrastructure Regulations (SAFIR) and other Intergovernmental bodies, forums as well as Regional and International Organizations. The primary objective of arranging these trainings, is to reform the telecommunication sector in Pakistan by building up the capacity to support fair competition among telecommunication entities. This in turn is expected to stimulate telecommunications development and introduction of new products and services to meet the growing demand.

In this regard, Authority has taken following initiatives during the reporting period.

- i. Proposed technical cooperation Protocols/ arrangements on telecom related issues with different countries;
- ii. Sharing of information, and advice with relevant foreign regulatory agencies;
- iii. Arranging trainings and other professional visit abroad on telecom technologies and regulatory issues;
- iv. Organizing post visit presentations as well as presentation of PTA officers on telecom, regulatory issues and participation in the international events;
- v. Arranging in-house training for PTA staff

PTA Staff

Currently 204 personnel are at the strength of Authority including 75 officers and 129 supporting staff.

During the current financial year officers including (DG Law) and Director Economic Affairs were selected and thus deputed to the Telecom Regulatory Authority Oman (TRA). The deputed officers were replaced with new induction. Besides this, Director (Accounts), Deputy Director (B&C), Director (Law), Director (Tariff) and Consultant Finance were recruited against the said posts. In addition to this, 11 junior staff have joined the Authority against the positions announced.

In addition to these recruitments, during the year, 3 Deputy Directors were promoted to the rank of Directors and two-steno typist were promoted as Stenographer.

Capacity Building

In order to meet the challenges of Liberalization and De-regulation with opening of telecommunication sector, the Authority accorded highest priority to enhance the capacity building of the PTA officers in the following areas:

- Issues and Practices in Telecommunication Regulation
- Regulatory Regime for introducing IP Telephony
- Utility Regulatory Principles & Practices

- Spectrum Licensing & management issues
- Standardization of Telecommunication Equipment & Services
- Wireless Communication & Access Technologies
- Information Communication Technologies
- Tariff and Interconnection
- Universal Service Obligation
- Licensing Framework
- Management issues in Utility Regulations
- Accounting Principles for Regulatory Environments
- IMT 2000

Participation in International Telecommunication Organizations

Officers from the Authority participated in number of meetings, workshops, study groups and training sessions organized by the international cooperative organization of telecommunication. Following organizations arranged these important events in which Pakistan Telecommunication Authority officers participated:

- International Telecommunication Union (ITU)
- Asia Pacific Telecommunity (APT)
- South Asia Forum for Infrastructure Regulations (SAFIR)

International Telecommunication Union (ITU)

ITU is an intergovernmental organization, functioning under the umbrella of United Nations (UN). Pakistan is contributing and focusing on many important issues of mutual interest of the ITU member Administrations for growth and development of the telecom sector. Pakistan played an important role for establishment of the Development Bureau of ITU at Nice in 1989.

1. Plenipotentiary conference (pp-02):

The Plenipotentiary Conference of ITU is the top policy making body of the International Telecommunication. It is key event at which ITU Member States decide on the future role of the organization, thereby determine the ability to influence and effect the development issues such as convergence tariff universal service obligations, e-commerce etc. The delegation of Pakistan Telecommunication Authority comprising Major General (R) Shahzada Alam Malik Chairman PTA, Dr. Abdul Jabbar Director (International Liaison), and Mr. Muhammad Ahmed Kamal, Director (Deregulation) participated in the Plenipotentiary Conference held from 23 Sept 18 October, 2003 in Marrakech.

The Chairman PTA as a head of delegation delivered the policy statement on behalf of Government of Pakistan and presented the compliments to the Government of the Kingdom of Morocco for hosting the sixteenth Plenipotentiary Conference of the ITU. The focus of the policy statement was on the finding solutions for bridging the digital divide, deregulation and liberalization of the telecommunication sector in developing countries for catering the demand of telecommunication services on priority basis.

catering the demand of telecommunication services on priority basis.

During the Conference Pakistan delegation submitted a proposal regarding the proposed amendments in the ITU Constitution and Convention. The same was registered as Conference Document Pak/69, which is a commendable job and achievement of Pakistan delegation.

2. ITU Elections During Pp-02

Pakistan is contributing and focusing on many important issues of mutual interest of the ITU member Administration for growth and development of the telecommunication sector. Pakistan also contested during the ITU election for the position of ITU Council membership and membership of Radio Regulation Board. Pakistan contested in Region E and won the Council membership by securing heavy margin of 116 votes from the member states (Represented by Maj. Gen (R) Shahzada Alam Malik Chairman PTA). Pakistan also won another seat of Radio Regulation Board and Mr. Akhtar Ahmed Bajwa, Chairman PTCL elected as its member on behalf of Pakistan.

3. World Radio Communication Conference (WRC-03)

The World Radio Communication Conference (WRC) is a main organ of the International Telecommunication Union (ITU). In this conference, discussions take place on reviewing the results of studies in pursuance of Radio Regulations and to set parameters for harmful interference in the bands allocated to the different segments for Radio location services, Satellite services as well as regulatory provisions and spectrum requirement for new and additional allocation to the mobile, fixed, Earth exploration-satellite and space services according to the ITU Conventions.

This year the Conference was held in Geneva and attended by delegation of PTA.

4. Implementation of ITU Cisco Project

Under capacity building programme, Pakistan Telecom Authority approached the International Telecommunication Union (ITU) for establishment of IP Networking / Internet Academy. ITU has approved the subject proposal and the same is being implemented with collaboration of CISCO Networking Academy (CNANP) at National Post Graduate Institute of Telecommunications & Informatics (NPGIT&I), Islamabad under the umbrella of Pakistan Telecommunication Company Limited (PTCL).

One of the objectives of Internet Training Center will be to strengthen Internet skills within the staff of the national telecom operators (s) and individuals. The setup of training center will consist of three phases.

- Training of Trainer
- Transfer of training material
- Start of IP training activities

The center will be run on nonprofit basis. Women are especially encouraged to participate.

Asia-Pacific Telecommunity (APT)

The Asia-Pacific Telecommunity (APT) is a Regional Telecommunication Organization under an Inter-governmental agreement. Pakistan has been a member since its establishment and participating in activities such as meetings of General Assembly, Management Committee, meetings, seminars, symposiums, workshops, conferences, study group meetings, as well as trainings offered by the APT.

1. Participation in the 9th Session of the General Assembly and 26th Session of Management Committee

The 9th Session of the General Assembly and the 26th Session of the Management Committee of the Asia Pacific Telecommunity scheduled from 23-31 October 2002 in New Delhi, India. The main issues addressed during the General Assembly Session were as under:

- Election of President and two Vice Presidents of the APT for the next term
- Revision of APT Constitution & Rule of Procedure
- Strategic Plan of the Asia Pacific Telecommunity for the period 2003-2005
- Review of report of Management Committee on the Activities of APT during 2000-2002
- Financial issues including contribution by the Members and Affiliated members for next 3 years
- Dates and Venue of next ordinary session of the General Assembly

Director General (Law) PTA, represented Government of Pakistan in the APT General Assembly and Management Committee and submitted APT proposal for holding of next session of APT in Pakistan, which was unanimously approved by the members representing in the General Assembly session.

2. Study Group Meeting in Cha-am Thailand

There are four study groups, which carry out research on different telecommunication issues and aspects. These studies are carried out with special reference to the Asia Pacific region. The study groups meet every year to discuss the study questions and to share their experience & expertise on the particular subjects or area of interest.

The 22nd APT Study Group meeting for the year 2002 was held at Cha-am, Thailand. This meeting was held from 19-22 August 2002. The Pakistan Telecommunication Authority being a member of APT was offered a fellowship to attend the 22nd meeting. Director (Tariff & Interconnect), PTA attended the said meeting.

It is pertinent to mention that Chairman of study groups for the next study cycle was also elected in the meeting. Mr. Tanveer Ahmed DG (M&O) PTCL was nominated by GoP for this Position. Mr. Tanveer was elected un-opposed by the meeting. By participating in such forums we can get awareness about the latest technological developments in the region. It helps in capacity building through the support of APT. It also helps in seeking technical support of APT in specific issues pertaining to Pakistan.

3. APT Year Book 2003

Asia Pacific Telecommunity desired for updated telecom sector status in Pakistan to be included in the APT Year Book 2003. In this connection a complete status of telecom sector of Pakistan was prepared and submitted to APT for its publication in the APT Year Book 2003.

South Asia Forum for Infrastructure Regulations (SAFIR)

This regulatory forum has been established in 1999 through World Bank assistance; with its headquarters in New Delhi, India. The SAFIR is designed to assist in the building of regulatory capacity in the electricity, natural gas, telecommunications, water, and transport. SAFIR aims to provide high quality capacity building and training on infrastructure regulation, and related topics, in South Asia. Pakistan became member of SAFIR in 2002 and is participating in its activities since then.

Training Activities

PTA officers participate in the trainings, workshops, meetings, seminars, and symposiums, both nationally and internationally. Pakistan Telecommunication Authority officers also attend special courses, seminars, meetings offered by the Universities and other leading institutions, for exchange of information on regulatory framework among countries. The officers who availed the opportunity to participate in these events, during this year, are shown in Appendix-E.

The Authority has also arranged in-house training program to enhance the capabilities of the PTA employees. In this regard, 3 days training workshop (17-19 March 2003) was arranged for officers BPS-17 to BPS-20 on communication, presentation, letter drafting and office Management at PTA H/Qs, Islamabad. In the first phase 34 officers participated.

Three days training for PTA employees BPS 5-15 on noting & drafting, office procedure, record management and general office management was also arranged by PTA and 42 officials benefited from the training.

Capacity Building in Regulatory Authorities

Utility Regulations is a dynamic field and rapid changes are taking place in the technological area. The institutions engaged are, therefore, striving hard to improve the skill of the employed human resource for achieving excellence in all related fields. Recognizing the challenges facing by new regulatory agencies like Pakistan Telecommunication Authority (PTA), we need to improve the physical infrastructure at an accelerated pace and broaden the human resource base which is crucial for the development and progress of the sector.

Regulatory Authorities of Pakistan intend to train their officers in different field through short courses. In the light of demands of the Regulatory Authorities in Pakistan, PTA is under process for organizing joint training courses for capacity building in the following areas like regulatory reforms, utility management and law, tariff regulation, License attribution and fee policy, regulatory accounting, tariff rebalancing and accounting principles tariff etc. In this regard the PTA is maintaining liaison with reputable Universities to organize the training course in the said areas.

Post Visit Presentations

During the reporting period, the Authority has organized various post visit presentations. These presentations were based on many training programs/workshops attended by the PTA officers. Moreover other important issues were also discussed like Wireless Local Loop, CDMA Technology, E-commerce, Broadband Telecom Network, Prepaid calling cards, Virtual private network, so and so forth. List of presentation made during this year are available at Appendix-C.

Management and Information System

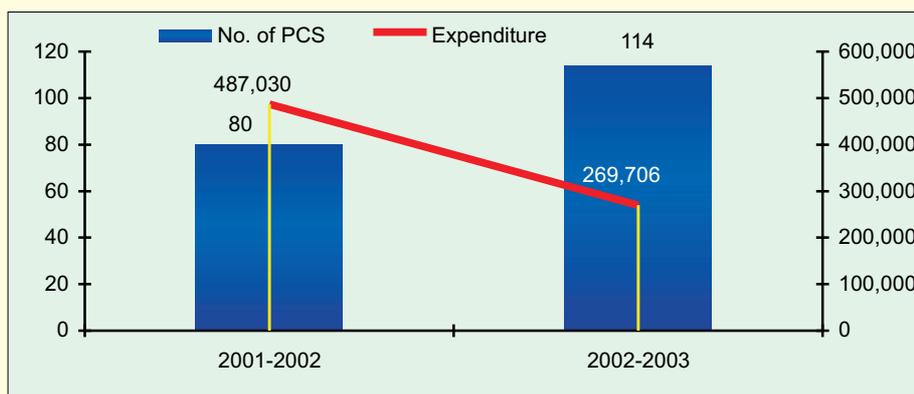
One of the main objectives of the Authority is to develop a strong management and Information system. In this regard, many soft wares and databases were developed to enhance the performance of PTA.

Development of New Website

PTA has developed a new website in ASP (Active Server Pages) and latest technology XML used for dynamic News/Updates. It contains the powerful search engine for immediate information. All the latest information regarding Licensees, Tenders, De-regulation is available on PTA website.

Development of Hardware Lab

To minimize the Hardware Trouble Shooting from out source, MIS section established a in-house Hardware Lab in September 2002, by using the facility of the Lab the initial diagnostic of Computers, Printers and other peripherals have become very easy. During the last financial year MIS section has cut down the cost for outsource repairs up to 50% as

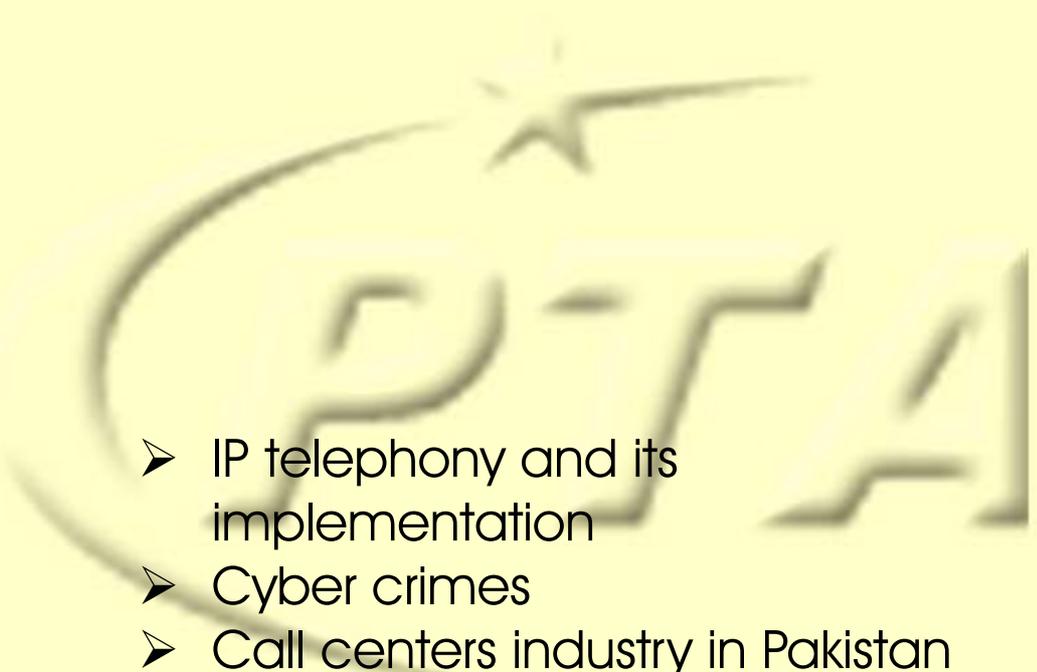


shown below:

Figure-4
Cost Reduction of Outsource Repairs

Web-based Complaint Cell Database

Consultation Papers/studies/ Working Papers

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- The logo of the Pakistan Telecommunication Authority (PTA) is faintly visible in the background. It features a stylized star above the acronym 'PTA' in a bold, sans-serif font, all enclosed within a circular border.
- IP telephony and its implementation
 - Cyber crimes
 - Call centers industry in Pakistan

Impact of introduction and utilization of new technologies on commercial and regulatory environment of telecommunications require vigorous knowledge gaining exercise. It is in this context that the Authority conducts number of studies; prepare working papers and consultation papers. These studies and papers thus become grounds and basis for important policy making and decision making.

Following are the studies, working papers and consultation papers prepared by the Authority in the year 2002-2003.

Convergence and Regulatory Issues

Convergence refers to technological change, commercial mergers and acquisitions or the emergence of new service types. From technological perspective convergence is defined as, the integration of voice, data and video technology over an existing infrastructure or an all-together new infrastructure that is based on the state of the art digital technology. Convergence issues include structural issues like the management of access market, social issues like the availability of new services, and legal issues like copyright definition in electronic service market. This paper addresses both the technological and structural issues of convergence that can be defined as "Service Sector Restructuring Enabled by Digitalization". The most common examples of convergence are; VoIP, video conferencing, streaming videos on demand (VOD), call centers, wireless web, TeleMedicine, online banking and insurance, etc.

IP Telephony and its Implementation in Pakistan

M/s Applied Excellence was awarded consultancy for study of "Internet Telephony & Its Implementation in Pakistan". The objective of this study was to address various issues relating to the introduction of IP Telephony in Pakistan and its current status around the world with special reference to APR (Asia Pacific Region). The study aims to bring out all major techno economic as well as regulatory issues relating to IP Telephony. A number of meetings were held at PTA to deliberate on various issues related to the subject. Finally, after removing observations M/s Applied Excellence have completed the assigned work and submitted the same to the Authority as per TOR (Terms of Reference) given to the firm by the PTA.

Study on Use and Deregulation of Cordless Telephones

The study was conducted to analyze the usage of cordless phones and devising/recommending the ways to de-regulate its usage but in the spirit of safeguarding all the stakeholders and national security. The cordless phones are becoming popular day by day but the use is mostly concentrated in the rural areas of Pakistan. These are basically providing an extension of basic telephony service in the far-flung areas. The study provides deregulation options available and covers the frequency, usage range, antennae requirements, PABX licensing. However, the usage of cordless phones is critical one as radio frequencies can be utilized for prohibited illicit activities as well. Therefore, this study provided hurdles/ threats in deregulating cordless phone usage by taking into consideration national security and possible malicious activities. The study ends up with unambiguous recommendations focused on promotion of telecom sector in the areas, which are still void of such basic services.

Study on Cyber Crimes

Cyber crime can affect those who use Internet, although the expanding E-commerce business may further increase the risk. Keeping this in view a detailed study is made on cyber crimes. It

defines cyber crime and its associated features. It covers in detail all the common techniques being utilized to achieve malicious activities via Internet. It has been observed that major cause of rise in cyber crimes is the lack of vulnerability of modern systems. The susceptibility of the modern system against these crimes is also discussed. PTA being the regulator of telecom sector and in the era of convergence, is responsible to ensure proper licensing/ regulations to combat cyber crimes. The study is, therefore, concluded with recommendations from regulator's point of view for all major services licensees by PTA to curb cyber crimes at its minimal.

Call Centers

In order to promote call center industry in Pakistan, Authority has taken initiative and constituted a study group to prepare a comprehensive paper on the subject. A consultancy paper was prepared after analyzing the successful call centers across the world, with a view to devise a strategy for promotion of call centers in Pakistan.

It was observed that the call center operators are providing services to various organizations for enhancement of their business, customer's satisfaction as well as after sale support. Due to the revolution in the telecom industry, international boundaries are meaningless for the business of call center operators. A call center operator in Pakistan can provide services to any company abroad using international telecom facilities. The main focus of the consultancy paper was to remove hurdles faced by this sector and encourage the growth of call centers in Pakistan, thereby accelerating the economic and social growth of the country. A proposed policy, thereof, in deregulated scenario in the form of consultation paper was floated in the industry for feedback

Audiotex Service

On the basis of decisions and recommendations made by Regional Advisory Committee Lahore and the Authority, a consultation paper on Audiotex Service was prepared to solicit opinion from all stakeholders. The consultation paper includes introduction about the service; revenue sharing arrangement between fixed-line and Audiotex Service provider; number of licensees and present tariff structure. It emphasizes the need for tariff review and proposes tariffs and minimum regulations to be followed by the fixed-line operators and service providers.

Cyber Cafes

The Authority received many complaints on operation of cyber cafes. However, operations of these cafes are not regulated, as they are not direct licensee of PTA. A need is, therefore, felt to evolve some regulatory mechanism for these cafes so that they do not indulge in computer related crimes and social evils such as pornography. Therefore, a consultancy paper was prepared and sent to stake holders to solicit their views. In house discussions were also held to improve the paper. Moreover, Cabinet division has also been approached for obtaining the policy directives in this regard.

Rural Access (Digital Divide)

A study on the Digital Divide was conducted. It highlighted the Digital Divide on the broadest level referring the Rural Teledensity in high-income countries and in low-income countries. The paper also gives economic overview of Pakistan's, Strategic study and master plan of PTCL relating to development of telecommunication infrastructure for the rural areas.

Fair Trade Practices in Telecommunication

Promotion of healthy competition is the main objective of the Authority. In the post monopoly scenario, competitors could indulge in anti-competitive behaviour, which is deterrent to the competition. In this context, to safeguard the rights of new entrants as well as the customers in the newly competitive environment, a detail study has been conducted and published as *the Telecom Liberalization Series Book-5 "Fair Trade Practices in Telecommunication"*.

Study on Interconnection

A study was conducted on Interconnection to address number of issues related to the topic. The study encircles the role of incumbent, regulator, new entrant and investors in the interconnection after deregulation. The impact of interconnection arrangements on the end users has also been discussed and elaborated.

Role of regulator was highlighted in the study. It was identified that the regulator (PTA) has a major role to play in the interconnection world. There is a need to clarify regulatory confusion. Also, the Regulator has to define his duties in principles and general, his role during negotiations and enforcement. Moreover, it has to define evolution in his role with evolving technologies. The study was used for preparation of Interconnection Guidelines.

Mobile Virtual Network Operators (MVNOs)

PTA has prepared a comprehensive paper on the subject. An MVNO in a simple way is an entity that provides retail mobile voice and data services, including enhanced services to consumers, while utilizing the physical facilities of another operator's network. MVNOs do not have a license to use radio spectrum, but would have access to the radio networks of one or more of the Mobile Network Operators (MNOs) and would be able to offer services to customers using that spectrum. The key purpose of this paper is to understand more clearly the types of services which MVNOs may be able to offer and any benefits that they might offer to consumers through increasing competition. A detail on foreign developments with regard to MVNO has also been included in this document.

Cellular Mobile Telephone Services (CMTS) License in the De-regulated Market Regime

Draft research paper on "*License Award Method*" for cellular mobile services has been prepared. The document contains all aspects of upfront fee, annual license fee, annual spectrum fee, Quality of Services (QoS) standards, Roll-out plan, eligibility criteria and general conditions, total duration of Mobile Services License and Universal Services and access approach.

In analyzing the above given parameters, the paper, however, evaluated the approach used by regulatory bodies of both developed economies and developing countries so that an unbiased and realistic insight into the issue can be accomplished. Final draft of the study and its findings has been discussed and debated internally by PTA, it will be forwarded to all stakeholders for their input upon promulgation of the CMTS-Telecom-Policy by the GOP (which is expected in a couple of months). The corresponding licensing, license enforcement and regulatory approach shall be adopted by the PTA in line with the guidelines of CMTS policy approved by the government.

Sale of Internet Telephony Card

During the last couple of years the sale of different Internet telephony cards has increased in the market and this practice is being followed in absence of proper regulations on the subject. While realizing the illegal practices going on in the market, PTA decided to award a local consultancy on VoIP during 2002. Subsequently hectic in house discussions were held at PTA and ultimately in December 2002 an open forum on IP Telephony was arranged. After circulating a consultancy paper to the local industry, and after receiving inputs from the industry PTA prepared a draft policy paper on the subject and sent its recommendations to IT & T Ministry through Cabinet Division.

Voice over Internet Protocol by Special Communication Organization

SCO sought PTA's permission for launching of VoIP service in July 2002. They were granted permission in September 2002 and were instructed that the Authority must approve the relevant contracts inclusive of tariff, relating to VoIP services. In this regard, a working paper was presented for Authority's consideration.

Prepaid Calling Cards

A Paper was prepared on the prepaid calling card and their presence in the local market. Different issues were discussed including pricing, availability and market share. To safeguard the interests of the consumers and potential investors, it is suggested to revise the status of the pre paid calling service. Being a service provider in competition with PTCL at National level, it is suggested that companies may interface with the PTCL Exchange facilities and sign operation and maintenance agreement thereof.