GOVERNMENT OF INDIA

OUTCOME BUDGET

2007-2008

MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGY
(Department of Telecommunications)

INDEX

Executive Summary

A system of performance budgeting by Ministries handling development programmes was introduced to assess the performance against the set out goals/objectives. However, it was felt that the document is not able to establish a clear one –to –one relationship between the Financial Budget and the Performance Budget and inadequate target setting in physical terms of the ensuing year. Therefore, in addition to the performance budgeting, the outcome budgeting was introduced. It was thought that there is a need to track not just the intermediate physical 'outputs' that are more readily measurable but the "outcomes" which are the end objectives. The Outcome Budget 2006-07 was presented in both the Houses of Parliament in March 2006.

As per the latest guidelines issued by Ministry of Finance vide letter no.F.No.2(i)/Pers/E-Coord/08/2005 dated 12th December, 2006, the Performance Budget is to be merged in Outcome Budget and a single document titled **Outcome Budget 2007-08** broadly indicating physical dimensions of the financial budget showing actual physical performance in 2005-06, performance in the first 9 months of the year 2006-07 and the targeted performance during 2007-08 is to be prepared by each Ministry/Department. In pursuance to the instructions issued by Ministry of Finance, Outcome Budget 2007-08 has been prepared for the Department of Telecommunication.

Today, India's 190 million strong telephone networks is the third largest network in the world and the same is expanding exponentially. The rapid growth in the telecom network has resulted in connecting the nooks and corners of the country. The same is attributable not only to proactive and positive policy measures of the Government but also to the entrepreneurial spirit of the various telecom service providers both in public and private sector. The Gross teledensity in the country has reached 16.83 at the end of December 2006. It has surpassed the Tenth Plan teledensity target of 9.91 by March, 2007 and also the targeted teledensity of 15 by 2007 as per NTP 99.

The plan of telecom expansion by the Government is mainly carried out through its PSU's[1]. The internal and extra budgetary resources (IEBR) of the PSU's fund the development and expansion activities. The gross budgetary support in the Budget Estimate 2007-08 is towards the outlays of WPC[2], WMO[3], TEC[4], TRAI[5], TDSAT[6], C-DOT[7], ITI[8] and four departmental projects initiated in 2006-07. The Universal Service Support Policy of the Government is executed through the Universal Service Obligation Fund (USOF). The resources for meeting the same are generated through a Universal Service Levy which is 5% of the Adjusted Gross Revenue (AGR) earned by all the

[1] Public Sector Undertakings
[2] Wireless Planning and coordination
[3] Wireless Monitoring Organisation
[4] Telecommunication Engineering Centre
[5] Telecom Regulatory Authority of India
[6] Telecom Dispute Settlement &Appellate Tribunal
[7] Centre for Development of Telematics
[8] Indian Telephone Industries Limited

operators except pure value added service providers like internet service provider, voice mail etc.

The plan as well as Non-Plan expenditure is monitored on a monthly basis vis-à-vis the allocation as well as the targeted milestones of the project. Corrective actions are taken wherever required depending upon the utilization of the funds as well as the achievement of the targeted milestones. The monthly accounts of the Department are also available on the Department's website, *www.dot.gov.in*.

The Rural Telephony objectives which are achieved through USOF are available for public scrutiny as the monthly progress under USOF is made available on the Department's website, *www.dot.gov.in*. Similarly, the information regarding the covering of uncovered 66,822 villages under the flagship "Bharat Nirman" programme is also available on the website.

This document intends to highlight the specific objectives of projects/schemes, their outcomes and the development activities of the Department of Telecom and its PSUs. The document is broadly divided into six chapters. Chapter I give a brief introduction on the role and functions of the Department, the vision statement of the Department and its organizational set up including the PSUs under its administrative control. Chapter II is in a tabular format and its main objective is to illustrate one-to-one correspondence between (Financial) budget 2007-08 and outcome budget 2007-08. Chapter III gives a snapshot view of the reform measures undertaken by the Department and various policy initiatives that have helped in fuelling the phenomenal growth in the sector. Chapter IV is the review of the past performance during the year 2005-06, 2006-07 (upto December 2006) and includes a bird's eye view of the status of telecom sector as a whole. Chapter V broadly examines the overall trend in expenditure vis-à-vis Budget Estimates/Revised Estimates. The position regarding utilization certificates and unspent balances has also been indicated. Chapter VI presents a review of the statutory & autonomous bodies under the Department.

CHAPTER I

I. Introduction

1.0 In pursuance of objectives of the New Telecom Policy announced in April, 1999, the Government of India by Notification No.1/22/1/99 Ca (i) dated 15.10.1999, had bifurcated the Department of Telecommunications into two Departments viz. the Department of Telecommunications for policy and licensing functions and Department of Telecom Services for all service providing functions. The Department of Telecom Services was further bifurcated vide Government of India Extra-ordinary Gazette Notification dated 19.7.2000 into two Departments, viz. the Department of Telecom Services and the Department of Telecom Operations for all matters relating to operations of telephones, wireless, data, facsimile and other forms of telecommunication. Subsequently, the Government of India has transferred the business of providing telecom services in the country from the Department of Telecom Services (DTS) and the Department of Telecom Operations (DTO) to a newly formed Company viz. Bharat Sanchar Nigam Limited, with effect from 1st October, 2000.

1.1 The Department of Telecommunication which forms part of the Ministry of Communications and Information Technology now remains responsible for policy formulation, licensing, wireless spectrum management, universal service obligation and the administration of various Acts pertaining to telecommunication.

1.2 An independent Regulator was set up by the Telecom Regulatory Authority of India Act 1997. The said Act was amended by TRAI (Amendment) Act 2000 to set up a Telecom Dispute Settlement & Appellate Tribunal (TDSAT).

Statutory Regulatory Body

i) Telecom Regulatory Authority of India [TRAI]

Statutory Tribunal

i) Telecom Disputes Settlement and Appellate Tribunal [TDSAT]

Autonomous body

i) Centre for Development of Telematics [C-DOT]

Attached/Subordinate Offices

i) Wireless Monitoring Organisation (WMO)
ii) Telecom Engineering Centre (TEC)
iii) Administrator, Universal Service Fund (USF)
iv) Controller of Communication Account Offices (CCA's)
v) Vigilance and Technical Monitoring (VTM's)

Public Sector Undertakings

i) Bharat Sanchar Nigam Limited, New Delhi – Govt. holding 100%
ii) Mahanagar Telephone Nigam Limited, Delhi – Govt. holding 56.25%.
iii) ITI Limited, Bangalore – Govt. holding 92.87%
iv) Telecommunications Consultants India Limited, New Delhi – Govt. holding 100%

II. Role and functions

2.0 Following are some of the functions assigned to the DoT under Government of India (Allocation of Business), Rules, 1961:

i) Policy, Licensing and Coordination matters relating to telegraphs, telephones, wireless, data, facsimile and telematics services and other like forms of communications.

ii) International cooperation in matters connected with telecommunications, including matter relating to all international bodies dealing with telecommunications such as International Telecommunication Union (ITU), its Radio Regulation Board (RRB), Radio Communication Sector (ITU-R), Telecommunication Standardization Sector (ITU-T), Development Sector (ITU-D), International Telecommunication Satellite Organization (INTELSAT), International Mobile Satellite organization (INMARSAT), Asia Pacific Telecommunication (APT).

iii) Promotion of standardization, research and development in telecommunications.

iv) Promotion of private investment in Telecommunications.

v) Procurement of stores, and equipment required by the Department of Telecommunications.

vi) Telecom Commission

vii) Telecom Regulatory Authority of India

viii) Telecom Disputes Settlement and Appellate Tribunal.

ix) Administration of laws with respect to any of the matters specified in this list, namely:

(a) The Indian Telegraph Act 1885 (13 of 1885)
(b) The Indian Wireless Telegraphy Act, 1933 (17 of 1933); and
(c) The Telecom Regulatory Authority of India Act, 1997 (24 of 1997).

x) Indian Telephone Industries Limited.

xi) Post disinvestment matters relating to M/s Hindustan Teleprinters Limited

xii) Bharat Sanchar Nigam Limited.

xiii) Mahanagar Telephone Nigam Limited.

xiv) All matters relating to Centre for Development of Telematics (C-DOT)

xv) Residual work relating to the erstwhile Department of Telecom Services and Department of Telecom Operations, including matters relating to -

a) cadre control functions of Group 'A' and other categories of personnel till their absorption in Bharat Sanchar Nigam Limited;

b) administration and payment of terminal benefits.

xvi) Execution of works, purchase and acquisition of land debitable to the capital Budget pertaining to telecommunications.

III. Vision Statement of the Department

3.0 To develop a strong and vibrant technology neutral telecom sector with enhanced participation of private sector that can:

- Propel India into the forefront among the global economic superpowers with high quality and cost-effective telecom infrastructure and services support.
- Ensure that the India's rural masses have easy access to the info-highways leading to education, knowledge, commerce and health, thereby bridging the digital divide.
- Provide opportunities for private investment both in services sector and manufacturing sectors leading to creation of employment, particularly in rural areas.
- Keep India technically advanced; initiate R&D in cutting-edge telecommunication technologies.

IV. Organizational set up

4.1 Department of Telecommunications

With a view to promoting quick decision making and development in all aspects of telecommunications including technology, production services and financing etc., the Government of India established a Telecom Commission with necessary executive, administrative and financial powers to deal with various aspects of telecommunications, modeled on the lines of Atomic Energy Commission/Space Commission. Telecom

Commission, which consists of a Chairman and four full time and four part-time Members, functions under the Ministry of Communications and Information Technology. Till 30.9.2000, the Commission directly oversaw the operations and the developmental activities of the Department of Telecom Services. However, after the formation of BSNL, the Department of Telecom remains responsible for policy, licensing and co-ordination.

4.2 Wireless Planning and Co-ordination (WPC) Wing

A. Objectives

i) Frequency Spectrum Management, issue of licenses to establish and operate wireless stations and conduct examinations for award of Radio Operators' Certificate of Proficiency and Licence to operate wireless equipment.

ii) Coordination at national level as nodal agency of the Government for interaction with the International Telecommunication Union (ITU), Geneva etc.

B. Functions

The Wireless Planning and Co-ordination (WPC) Wing of the Ministry of Communications & IT is responsible for:

i) Radio Frequency (RF) Spectrum Management for terrestrial and satellite operations and Orbit-Frequency coordination in respect of Satellite Systems keeping in view ITU's Radio Regulations.

ii) Assignment of radio frequencies for various radio services in India and all the related actions for national and international coordination.

iii) Licensing of all wireless stations of various categories.

iv) Coordination in all matters as national nodal agency, relating to International Telecommunication Union (ITU) including preparations for participation in their meetings and conferences after coordinating and harmonizing the views at national level with various wireless users from Govt. Departments/Organisation and others.

v) Conduct of examinations for award of Certificate of Proficiency (COP) for Radio Officers/Pilots/Wireless Operators on board ships and aircrafts and for award of Amateur Stations Operators Certificates (ASOC).

vi) Site clearance of wireless installations and effecting inter-departmental coordination through the apex body namely the Standing Advisory Committee on Radio Frequency Allocations. (SACFA).

vii) Direction and Control of Wireless Monitoring Organisation, the field organization.

Attached/Field Offices of DoT

4.3 Controller of Communication Accounts

The Offices of Controller of Communication Accounts (CCAs) came into existence on 1.10.2000, following the corporatization of the erstwhile operational arms of the DoT. These were created with a view to ensure smooth and efficient performance of major functions of the Department of Telecom at the field level. They have played a crucial role in ensuring smooth management of retirement and other terminal benefits of lakhs of employees of DoT, BSNL and MTNL.

Functions being performed by CCA Offices

The 26 CCA offices spread across the length and breadth of the country are performing following important functions:

1. Disbursement of Pension: CCA offices are responsible for the settlement of pensionary and terminal benefits i.e. issue of pension payment orders, authorization of payment of commuted value of pension, gratuities, recovery of pension contribution, etc.

2. GPF, loans and advances: The CCAs are responsible for maintenance of GPF accounts and recovery/ accounting of long term advances taken by employees.

3. License Fee collection: Majority of the licensees are under revenue share regime of license fee. License Fee is based on fixed percentage of Gross Revenue/Adjusted Gross Revenue. The CCAs collect and account license fee from the telecom service providers in the circle. The preliminary scrutiny of license fee related documents as per license agreement is also performed by them. CCA offices deal with license fee related work of approximately 200 licensees under UASL/Basic/CMTS/NLD and other services.

4. Maintenance of Financial Bank Guarantees: The CCAs have been entrusted with the work of maintenance, renewal, revision and invocation of Financial Bank Guarantees submitted by the licensees.

5. Verification of Deductions: As per the license agreement, licensees claim deductions to calculate license fee payment. The CCAs are verifying the deductions on an quarterly basis (on account of pass thru charges, roaming service charges, sales tax , service tax)claimed by the licensees . The deductions claimed vary from 23% to 91% of the Gross Revenue under different categories of licenses.

5. Spectrum Charges: The CCAs are responsible for collection and monitoring of Spectrum Revenue from Telecom service providers in respect of 113 licensees relating to GSM/CDMA/UASL etc.

6. Universal Service Obligation: The CCA is responsible for the verification of the claims of the eligible service providers and release of payment. The CCA is responsible

for physical inspection of facilities and monitoring the progress of Rural Telephony which has a direct bearing on subsidy disbursed.

6. The CCA also handle court cases at field level where the Government of India is a party in matters of licence fees, spectrum fees, pension, absorption issues etc.

7. The CCAs also hold pension Adalats and liaison with State Departments and other ministries on various issues.

4.4 Vigilance Telecom Monitoring Cells:

4.4.1 With the increasing number of telephone operators in the country the Government felt the need of presence of Telegraph Authority in the circles. The VTM cells are functioning as the field offices of the DoT. These cells represent the Telegraph Authority and the Licensor in the field and perform the vigilance and monitoring functions. Vigilance functions include:-

Vigilance Functions:

a) To Carry out inspection of premises of service providers(illegal) in order to curb illegal / clandestine activities
b) Inspection of premises of the licensed service provider
c) Control over clandestine / illegal operation of telecom networks by vested interest having no license
d) To file FIR against the culprits, pursue the cases; issue notices indicating violation of conditions of various Acts in force from time to time.
e) Analysis of call/subscription/traffic data of various licensees.
f) Technical arrangement for the lawful interception / monitoring of all communications passing through the licensee's network.
g) To ascertain that the licensee is providing the services within permitted area.

Monitoring Functions:

1. Coordination and monitoring of various network operators.
2. To check the compliance to the roll-out obligation as per license condition
3. Checking of the compliance by the licensee in respect of the license conditions and any directions issued by the licensor in public interest.
4. To ensure optimum call completion ratio of inter operator calls.
5. Matters related to national security.
6. Disaster Management: Taking over of network in the events of natural calamities or the other emergency situations.
7. Grievance re-dressal of subscribers in respect of deficiency by various operators.
8. Perform such other functions as may be entrusted to it from time to time by the DOT in overall interest of the country and consumers

4.5 Telecommunication Engineering Centre (TEC)

4.5.1. Telecommunications Engineering Centre (TEC), is a Technical wing of the Department of Telecommunications (DoT), Ministry of Communications and Information Technology, Government of India. Its responsibilities include among other things:

- Preparing Standards and Specifications for harmonious growth of the Indian Telecom Network and Services for the public as well as private sector operators
- Carrying out evaluation of equipment and services
- According approvals for equipment, technology and services
- Studying new technology & services and give technical advice to DoT for their introduction in the Indian Telecom Network
- Technical & Advisory support for DoT
- Technical advice to TRAI and TDSAT on request of DoT
- Drawing up Fundamental Technical Plans of DoT
- Interaction with multilateral agencies like APT, ETSI and ITU etc., through DoT
- Creating facilities to further the objectives of MRA
- Develop necessary expertise to imbibe the latest technologies and results of R &D
- Coordinate with C-DoT to provide details on the technological developments in the Telecom Sector for policy planning at DoT level.

TEC has following specialized division:

- External Plant
- Information Technology
- Networks
- Transmission
- Radio Transmission
- Satellite Division
- Value Aided Services
- Switching

- Mobile Communication

In addition, Regional Coordination division coordinates all Regional Centres. The Regional Centres facilitate testing of equipment and licensed service networks. These are located with regional headquarters in Bangalore, Kolkatta, Delhi and Mumbai to cover the entire country. The Approval certificate is issued from centralized unit called Type Approval Unit under RC division.

4.6 Wireless Monitoring Organisation (WMO)

The Wireless Monitoring Organization (WMO) is field organization of the WPC Wing of the DoT, Ministry of Communications & IT.

The WMO has a network of 22 Monitoring Stations spread all over the country to monitor (technical and operational parameters of) all wireless transmissions, both Government and Non-government agencies. These stations resolve cases of harmful interference as well as collect data on vacancy/occupancy of Radio Frequency Spectrum, identify and to locate unauthorized wireless transmissions. To ensure mutual compatibility and efficient working of various services like microwave, LOS links, Radar, Cellular Radio Telephones etc., Mobile monitoring is also carried out.

An International Satellite Monitoring Earth Station is functioning at Jalana (Maharashtra) with its primary objective to protect Indian Satellite Systems from the interference caused by the transmissions of the foreign satellite systems by monitoring/checking of various technical parameters.

4.7 Administrator, Universal Service Fund (USF)

The Universal Service Support Policy (USSP) announced by the Government on the basis of the recommendations of the TRAI came into effect from 1.4.2002. The scope of the Universal Service Obligation (USO) includes public access through VPTs[9], RCPs[10], as well as provision of rural household telephones (RDELs) in the identified net high cost rural/remote areas. For implementation of the Universal Service Support Policy, the Government has appointed an Administrator, Universal Service Fund w.e.f. 1.6.2002. The office of the Administrator, USF is an attached office of the DOT.

The main functions of the Administrator, USF are as follows:

a) Implementation of the guidelines laid down by Government for providing Universal Service Support;
b) Suggesting such changes in policy as may be deemed necessary for implementation of Universal Service Support;
c) Forecasting the requirement of Universal Service Funds for each financial year and obtaining approval of Government through Department of Telecom; and

[9] Village Public Telephones
[10] Rural Community Phones

d) Ensuring that the prescribed Universal Service Levy is credited to the appropriate Universal Service Fund on a regular basis.

As envisaged in NTP-99, the resources for the implementation of the USSP are being raised through a Universal Service Levy (USL) which has been fixed at 5% of the Adjusted Gross Revenue (AGR) earned by all the operators as part of the licence fee, except for pure Value Added Service Providers, Voice Mail, e-mail and Internet Service Providers, etc.

Regulatory Authority/Appellate/Tribunal

4.8 Telecom Regulatory Authority of India (TRAI)

The Telecom Regulatory Authority of India (TRAI) was established under the Telecom Regulatory Authority of India Act, 1997 enacted on 28th March 1997. The TRAI (Amendment) Act, 2000 led to reconstitution of the Authority. It consists of one Chairperson, two full- time members and two part-time members. TRAI has endeavoured to encourage greater competition in telecom sector together with better quality and affordable prices, in order to meet the objectives of NTP'99. Vide Notification of the Government dated 9th January 2004, broadcasting and cable services have also been included in the definition of 'telecommunication service' under the TRAI Act, and thus, broadcasting and cable services have also come under the purview of TRAI.

4.8.1 Functions of TRAI

4.8.1.1 Under section 11(1) (a) of the TRAI Act, the TRAI is to make recommendations either suo- moto or on a request from the licensor on the following matters:

(i) Need and timing for introduction of new service providers,
(ii) Terms and conditions of licence to service providers,
(iii) Revocation of licence for non-compliance of the terms and conditions of licence
(iv) Measures to facilitate competition and promote efficiency in the operation of telecommunication services,
(v) Technological improvements in the services provided by the service providers,
(vi) Type of equipment to be used by the service providers after inspection of the equipment used in the network,
(vii) Measures for the developments of telecommunication technology,
(viii) Efficient management of the available spectrum.

4.8.1.2 Under section 11(1) (b) of the TRAI Act, TRAI's regulatory functions are:

(i) Ensure compliance of the terms and conditions of licence,
(ii) Fix the terms and conditions of inter-connectivity between the service providers,
(iii) Ensure technical compatibility and effective interconnection between different service providers,
(iv) Regulate arrangement amongst service providers of sharing their revenue derived from providing telecommunications services,

(v) Lay down the standards of quality of service to be provided by the service providers and ensure the quality of service and conduct periodical survey of such service provided by the service providers so as to protect the interest of the consumers,

(vi) Lay down and ensure the time period for providing local and long distance circuits of telecommunication between different service providers.

(vii) Maintain register of interconnection agreements and all such other matters as may be provided in the regulations,

(viii) Ensure effective compliance of universal service obligations.

4.8.1.3 Under section 11(1) (c) & (d) of the TRAI Act, TRAI's other functions are:

(i) Levy fee and other charges at such rates and in respect of such services as may be determined by regulations,

(ii) Perform such other functions including administrative and financial functions as may be entrusted to it by the Central Government or as may be necessary to carry out the provisions of the TRAI Act,

As per section 11(2) of the TRAI Act, the function of the Authority is to notify from time to time in the Official Gazette the rates at which the telecommunication services within India and outside India shall be provided under the TRAI Act including the rates at which messages shall be transmitted to any country outside India.

In addition to the above, in exercise of the powers conferred by clause (d) of sub-section (1) of section 11 of the TRAI Act, the Central Government has entrusted additional functions to TRAI in respect of broadcasting and cable services which mandates TRAI to make recommendations regarding the terms and conditions on which the "Addressable systems" shall be provided to the customers.

4.9 Telecom Disputes Settlement & Appellate Tribunal (TDSAT)

Telecom Disputes Settlement & Appellate Tribunal (TDSAT) was established in the year 2000 by Government of India after amending the Telecom Regulatory Authority of India Act, 1997. The Tribunal consists of a Chairperson, and two members. The TDSAT adjudicates disputes between licensor and licensee, between two or more service providers, between a service provider and a group of consumers and hear and dispose of appeals against any decision or order of the Telecom Regulatory Authority of India. The Tribunal has original as well as appellate jurisdiction. As per Section 16 (1) of the Act, the Appellate Tribunal is not bound by the procedure laid down by the Code of Civil Procedure but is guided by the Principals of Natural Justice and subject to the other provisions of the Act, the Appellate Tribunal has powers to regulate its own procedure.

In exercise of the powers conferred by the proviso to clause (k) of sub-section (1) of Section 2 of the Telecom Regulatory Authority of India Act, 1997 (24 of 1997), the

Central Government by Notification No. 44(E) dated 9.1.2004 notified the "broadcasting services" and "cable services" to be "telecommunication service".

TDSAT has also developed its own Website and all the important judgments and other activities of this Tribunal are available on the Website www.tdsat.nic.in.

Autonomous Body

4.10 Centre for Development of Telematics (C-DOT)

The Centre for Development of Telematics (C-DOT) was set up by the Government of India on August 25, 1984 as an autonomous scientific society under the Societies Registration Act, 1860, with its registered office in New Delhi. Its activities focus on research and development in the areas of telematics technology, products and services. The organisation is funded mainly by way of grants-in-aid from the Government.

4.10.1 Key Objectives

(i) Development of total telecom solutions, technologies and application for the fixed line, mobile and packet based converged network & services.
(ii) Development of local manufacturing capabilities for C-DOT products by using indigenous ancillary industries for components.
(iii) Research in the frontiers of information technology and telematics, taking into account futuristic trends.

Public Sector Undertakings

4.11 Bharat Sanchar Nigam Limited (BSNL)

4.11.1 In pursuance of New Telecom Policy 1999, the Govt. of India corporatised the service providing functions of Department of Telecommunications (DOT) and transferred and business of providing telecom services in the country to the newly formed company viz Bharat Sanchar Nigam Ltd w.e.f. 1st October 2000. The Company has been incorporated as a company with limited liability by shares under the Companies Act 1956, with its registered and corporate office in New Delhi.

4.11.2 BSNL is a Public Sector Undertaking with an authorized share capital of Rs.10,000 crore and paid up capital of Rs.5,000 crore. It is one of the largest technology-oriented Public Sector Undertaking (PSU) in the country with a mandate of providing all types of telecom services.

4.11.3 It operates the telecom services in all the telecom circles of the country except Delhi and Mumbai where another PSU viz MTNL is operating.

a) The vision of BSNL is to provide world-class telecom services ranging from plain telephone service to all types of value added services at affordable prices.

b) BSNL is working towards the following objectives:

i) To provide the state of art technology telecom services to esteemed customers on demand at affordable price in the country.
ii) To provide world-class telecom infrastructure in its area of operation and develop the country's economy.
iii) To further improve its operations in Domestic markets by proper marketing strategies and entering into joint ventures.
iv) To provide Point of Interconnection to other service provider as per their requirement promptly.
v) To meet the telecommunications requirements of business enterprise in the country.
vi) To retrain its employees with customer orientation in its operations.

4.12 Mahanagar Telephone Nigam Limited (MTNL)

4.12.1 Mahanagar Telephone Nigam Limited (MTNL) was incorporated on Feb.28, 1986 under the Companies Act as a wholly owned Govt. Company and on April, 01 1986, assumed responsibility for the control, management, operation of the telecommunications Networks in Delhi & Mumbai. MTNL is the principal provider of fixed-line telecommunication service in these two Metropolitan Cities of Delhi and Mumbai and the jurisdiction of Company comprises the city of Delhi and the areas falling under the Mumbai Municipal Corporation, New Mumbai Corporation and Thane Municipal Corporation.

4.12.2. MTNL under a license issued on Feb' 2001 is also providing GSM based cellular services in both the metropolitan cities of Delhi (including the cities of Gurgaon, Faridabad, Ghaziabad and Noida) and Mumbai (including Kalyan as well).

4.12.3 A Joint Venture Company named United Telecom Ltd. (UTL) has been set up by MTNL, VSNL and TCIL along with Nepal Venture Pvt. Ltd. (NVPL) to provide CDMA based basic services in Nepal. UTL also has licence to operate NLD & ILD services.

4.12.5 In the international arena, a wholly owned subsidiary under the name of Mahanagar Telephone Mauritius Ltd. (MTML) has been providing ILD services in Mauritius.

4.12.6 MTNL has also formed a Joint Venture with Software Technology Parks of India (STPI) under Department of Information Technology, Ministry of Communication and Information Technology, New Delhi, with authorized capital of Rs. 50 crores. The new company in the name of MTNLSTPI Service Ltd. has been registered with the Registrar of Companies (Delhi & Haryana), New Delhi as on 31.3.2006. The main object of company is to undertake all such activities that are required to make "India. in" the platforms of choice on which to obtain web-hosting, data/application hosting and related

services and help popularize the “In” domain in general and make the “India. in” portal a platform by which to bring about information dissemination and knowledge sharing.

4.12.7 Millennium Telecom Limited (MTL) a joint venture company of MTNL & BSNL with 51% & 49% equity participation is planning to lay its own submarine cable system from both east & west of the country to for east & middle east with an aim for onward connectivity to Europe and North America through existing & newly planned submarine cable via both East & west routes.

4.12.8 MTNL launched Broadband service based on the state of the art ADSL2+ technology.

4.13 ITI Limited

14.13.1 I T I Limited was established in July 1948 as a Departmental Undertaking of the Government of India and was converted into a Company in January 1950. It is the first Public Sector Undertaking to be set up by the Government of India. The Authorized and Paid up Share Capital of the Company is Rs.700 Crores and Rs.588 Crore respectively as on 31-03-2005. The Registered and Corporate Office of the Company is situated at Bangalore. The Company has grown into country's largest telecom company with state-of-the-art manufacturing facilities spread across six manufacturing units located at Bangalore, Naini, Rae Bareli, Srinagar, Palakkad & Mankapur. In addition Network systems unit with head quarters at Bangalore provides value-added services like Radio Paging, VSAT, etc. and there are 10 Regional Offices. Having contributed to over 60% of the existing national Network the company offers a complete range of telecom products covering the whole spectrum of Switching, Transmission, and Access and Subscriber Premises equipment. In tune with the technology trend, it has embarked on the manufacture of GSM and CDMA infrastructure equipment.

4.13.2. ITI Company's strength in the strategic area of communications for Defense has been epitomized by the prestigious ASCON project, the third phase of which it is currently implementing. By deploying its vast telecom expertise and infrastructure, the Company is consolidating its diversification into IT and IT – enabled services, acquiring keen competitive edge in the convergence market.

4.13.3 Major Customers of ITI products are BSNL and MTNL. ITI is also supplying Telecom Products to Railways, Defence and Corporate Sectors. ITI is also making all out efforts to become a key player in the global market and continued its exports efforts in Afghanistan, Africa and SAARC countries The Company has achieved an Export turn-over (including services) Rs. 44 crores during the year.

4.14 Telecommunications Consultants India Limited (TCIL)

4.14.1 On 10th March 1978, Telecommunications Consultants India Ltd. (TCIL) was incorporated as a wholly owned Government of India Company. The Company was set up with the objective of extending the wide ranging telecom expertise available with DoT

to friendly developing countries. On August 1st, 1978, the Company commenced its business. The Company has since then been engaged in adopting world class communication and IT technologies for catering to the local needs of countries mainly in the developing world.

4.14.2. Core Competence

4.14.2.1 Company is undertaking projects in all the fields of telecommunications and IT in India and abroad. The core competence of the Company is in Network projects, Software Support, Switching and Transmission Systems, Cellular Services, Rural Telecommunications, Optical Fibre based backbone network, and CDMA based basic service networks, Billing, Mediation and customer care systems for different telecom services. The company is also diversifying into other business areas such as Optical Fibre on ground wire for power utilities, e-governance for State Governments in India and abroad, communication system for Airport Terminals & Light Houses, construction of roads etc.

4.14.2.2. Company has also entered into Basic and other licensed Services in India/ abroad through the JV route. TCIL already has operations of cellular services through a JV in Rajasthan.

4.14.2.3. Company secures business by participating in international and national competitive bidding. The company is also contributing to provide strategic communication in the neighboring countries like Nepal, Afghanistan, and Bhutan etc.

CHAPTER – II

Outcome Budget 2007-08

The Outcome Budget 2007-08 has been prepared for the schemes/programmes under Plan as well as Non-Plan. The major component of the Non-Plan funds is on account of the funds provided for the Universal Service Obligation Fund. The Outcome Budget 2007-08 prepared for the Department of Telecommunication includes the following:

Rural Telephony
(Universal Service Obligation Fund)

Telecom development in rural areas assumes special significance as more than 70% of India's population lives in villages. There is a strong two-way co-relation between telecom development and overall economic development of a region. Telecom services are important drivers for development, delivery of public services such as education, health etc. and integration of rural areas with the rest of the country. Recognizing this, Government had announced the Universal Service Support Policy on 27th March 2002 under which a separate fund for providing access to telegraph services to people in the rural and remote areas was set up. The resources for implementation of USO are raised through a Universal Service Levy (USL) which has presently been fixed at 5% of the Adjusted Gross Revenue (AGR) of all telecom service providers except the pure value added service provider like Internet, Voice Mail, email service providers etc. The activities being undertaken by Department of Telecom under USO are geared towards augmenting the infrastructure and increasing telecom coverage in the rural and remote areas.

"Bharat Nirman Programme"

Initially the emphasis was on provision of access to public telephones through installation of Village Public Telephones, Rural Community Phones and replacement of MARR telephones. **The VPT component is covered under the flagship Bharat Nirman Programme of Government of India. From the year 2005 assistance is also being given for providing new rural household direct exchange lines. 66822 uncovered villages had been identified for provision of VPTs. By the 31st of January, 2007, VPTs have been provided in 39,741 uncovered villages**.

1, 86,872 MARR VPTs had to be replaced out of which 1,68,559 MARR VPTs have been replaced till 31st January, 2007. Rural community phones had to be provided in 46,253 villages and by 31st January, 36338 rural community phones have been installed. Since the inception of the scheme for providing new RDELs in 2005, by 31st January, 17, 12,530 RDELs have been provided.

Mobile telephony has brought about a revolution in the urban areas. This has resulted in a rapid growth in the teledensity in the urban areas. The difficult topography and the high expenses involved in laying landlines encouraged USOF to consider the mobile option for the rural areas. The Indian Telegraph Act, 1885 has been amended in December,

2006 to enable USOF to support mobile telephony in the rural and remote areas. A notice inviting tender for shared infrastructure and provision of mobile services in specified rural and remote areas has been issued on 18th January, 2007. The bidding process will be completed by the 26th of March 2007 and agreements will be signed with the successful bidders by mid April, 2007. 7871 sites spread over 500 districts all over the country are being put to bid. Each site will be shared by a maximum of 3 telecom service providers. One year period divided into two phases has been given to complete this work.

The Indian Telegraph Rules have been amended to enable USOF to cover a larger sphere of activities and these include provision of mobile services, rural broadband connectivity and strengthening of general infrastructure in the rural and remote areas. A scheme for providing broadband connectivity is under finalization and will be implemented during the year 2007-08 which has been declared as the Year of Broadband. Fiscal 2007-08 will mark a watershed in the growth and development of USOF activities. The financial outgo during the year is going to reach a peak for the following reasons -:

(i) The public access activities will be completed during this year. This will include installation of approximately 14000 VPTs provided on satellite connectivity.

(ii) The last date for providing new installations under the RDEL scheme is March 31, 2007. Since infrastructure has come up, a large number of RDELs are going to be commissioned during the last quarter of 2006-07 and the financial impact of this will come during the 2007-08.

(iii) Even though subsidy for the mobile telephony scheme is going to be spread over a period of 5 years, the net outgo on the scheme during 2007-08 will be approximately in the range of Rs.900 crores.

(iv) Expenditure will be incurred on the rural broadband connectivity scheme.

In this background, the Department of Telecom had requested Ministry of Finance for funds to the tune of Rs.3000 crores against which a sum of Rs.1800 crores has been allocated. The Outcome Budget[11], thus prepared, contains the detailed fund requirement for Rs.3000 crore. The additional funds for the same would be asked for at the RE 2007-08 stage.

At a time when the country is witnessing a consistently high GDP, foreign investment is increasing and domestic production is going up, the USOF finds itself in a unique position where technology, political will and entrepreneurship to lay a solid foundation for a modern telecom network in the rural areas exists. If the funds available as USO levy in the Consolidated Fund of India are released in a timely manner, such a telecom network could be laid.

[11] Refer Annexure-A

Telecom Engineering Centre (TEC)

Telecom Engineering Centre, as a part of DoT, Government of India, has its headquarters at New Delhi. The TEC is responsible for the standardization and development of generic requirement, interface requirements for Telecom Equipment services and products. It is also responsible for new telecom technology study, trials, evolution and induction in the network. A sum of Rs.20.25 crore has been provided under the plan 2007-08 for the setting up of NGN test lab and other activities and Outcome Budget[12] prepared for the same.

Wireless Planning & Coordination (WPC)

The approved plan outlay of Wireless Planning and Coordination Wing for the year 2007-08 is Rs.11.40 crore. WPC/WMO, as part of the Telecom Sector Reform Technical Assistance Project, is implementing National Radio Spectrum Management and Monitoring System (NRSMMS). The project for National Radio Spectrum Management Monitoring System is for automation of process for Radio Frequency (RF) Spectrum Management including frequency assignments, wireless licensing etc and upgradation of the radio monitoring facilities in the Wireless Monitoring Organization, the field organization of the WPC Wing. This project when completed will improve the utilization of Radio Frequency Spectrum, which is a scarce national resource and essential for modern telecommunication services. The Outcome Budget[13] of WPC relates to the work being undertaken under this project.

Wireless Monitoring Organization (WMO)

The approved Plan Outlay for Wireless Monitoring Organization is Rs.15 crore for the year 2007-08 and the Outcome Budget[14] relates to the outlay. The funds would be utilized mainly for the upgradation of infrastructure and strengthening of VHF/UHF Spectrum Analysis Capability, strengthening of HF monitoring and implementation of Management Information System among other activities.

Centre for Development of Telematics (C-DOT)

Centre for Development of Telematics (C-DOT) is the Telecom Research and Development Centre of the Government of India. It is an autonomous scientific society which develops total telecom solution technologies and applications for the fixed line, mobile and packet based converged network and services. C-DOT's current focus is on the development and deployment of next generation networks and cost effective rural wireless solutions. A plan outlay of Rs.161.07 crore has been approved for C-DOT during 2007-08. Rs.129.10 crore has been provided as budgetary support which includes

[12] Refer Annexure-B
[13] Refer Annexure-C
[14] Refer Annexure-D

Rs.50 crore for the setting up of C-DOT Centre for Communication Security Research and Monitoring and Rs 31.97 crore is from the internal resources of C-DOT. The projects to be undertaken by C-DOT during 2007-08 and which is part of the Outcome Budget[15] are related to advanced Intelligent Network (IN), Network Management System and Wireless and mobile communication among other project relating to the setting up of the centre.

Telecom Regulatory Authority of India (TRAI)

A sum of Rs3.00 crore has been provided under Plan for telecom regulatory authority. The quantifiable deliverables/physical outputs related to TRAI are related to the various proposed studies/consultancies to be undertaken by TRAI and on the training to TRAI officials on technical and regulatory issues. Hence, the Outcome Budget[16] for TRAI is pertaining to the above parameters.

Telecom Disputes Settlement and Appellate Tribunal (TDSAT)

A sum of Rs.1.25 crore has been provided under Plan to TDSAT. The funds would be utilized for up-gradation of reference library, holding of seminars, appointment of legal consultants and study tour of Hon'ble Chair person/members and the training of staff. The Outcome Budget[17] of TDSAT, therefore, relates to the above facilities.

Bharat Sanchar Nigam Limited (BSNL)

Bharat Sanchar Nigam Ltd. (BSNL) has a approved Plan Outlay of Rs.22,881 crore for the year 2007-08. The funds would be utilized for the provision of internet, broadband facilities amongst other programmes given in the Outcome Budget[18].

Mahanagar Telephone Nigam Limited (MTNL)

The approved plan outlay of MTNL for the year 2007-08 is Rs.2309 crore with no budgetary support. The resources are being generated by the company through its internal and extra budgetary resources. The outcome targets as given in the Outcome Budget[19] of MTNL mainly relate to increase in the net switching capacity, convergent billing and to support expansion in new service areas abroad.

Indian Telephone Industries Limited (ITI)

A sum of Rs.1 crore has been provided to ITI as a token provision for helping in upgradation of its manufacturing activities.

[15] Refer Annexure-E
[16] Refer Annexure-F
[17] Refer Annexure-G
[18] Refer Annexure-H
[19] Refer Annexure-I

DoT Projects

The Budgetary support of Rs.340 crore includes provision for the following projects and the Outcome Budget[20] has been prepared accordingly.

(a) Setting up of Telecom Testing and Security Certification Centre (TETC): Advances in computer and communication technology formed a basis of global economic growth and increase of standard of living. With this increased reliance comes the need to make information system more secure, test worthy, sustainable and available in the face of both intentional attacks and accidental faults. There is a need to form comprehensive tests in order to assure oneself of secured network. It is important to create a test bed in which the Government has adequate control in devising protocols and procedures for testing of carrying out test of every telecom products and carrying out research. Keeping in view, setting up of Telecom Testing and Security Certification Centre has been proposed with in investment of Rs.6 crore.

(b) Technical Assistance: For providing technical assistance for promoting investment in the manufacturing sector and export of telecom equipments to the developing/underdeveloped nations an amount of Rs.2 crore has been provided.

(c) Undersea Cabling between Mainland and Andaman & Nicobar (UM&AN): In order to provide an alternate redundant path to avoid communication black out in a disaster it is felt eminently desirable to have a submarine cable link from mainland to Andaman & Nicobar Island. This is also in line with the Government's approach and management in the developmental activities project. A sum of Rs.1 crore has been provided for this project in BE 2007-08 as a token provision.

(d) OFC based network for Defence Services (DS): In the context of coordination/vacation of spectrum by Defence Services, based on a meeting between Secretary (Telecom) and Defence Secretary, it was agreed in principle that DoT would help in replacement of some of the Defence wireless networks between fixed locations, with Optical Fibre Cable based network through BSNL, etc. The urgency for coordination/vacation of spectrum by Defence for growth of mobile services as well as introduction of 3G services, has been recognized at the level of PMO also. The Ministry of Defence has requested for this project to be undertaken by DoT, with DoT funds, for faster execution etc. Hence an amount of Rs.150 crore has been provided in BE 2007-08.

[20] Refer Annexure-J

Annexure-A

RURAL TELEPHONY
(UNIVERSAL SERVICE OBLIGATION FUND)
OUTCOME BUDGET FOR 2007-08

Sl. No.	Name of the Activity		Annual Targets		Quarter 1		Quarter 2		Quarter 3		Quarter 4		Remarks
			Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	
1	O & M for existing VPTs (in lakh)		163.00	3.28	42.00	3.28	40.00	3.19	40.00	3.19	41.00	3.19	Subsidy for Operation & Maintenance of Existing VPTs
2	Replacement of MARR VPTs (in lakh)	Existing	264	1.77	60	1.77	65	1.86	69	1.86	70	1.86	Replacement of remaining MARR VPTs and already replaced after 1.4.2002. agreement is up to June 2007.
		Addition	8	0.098	4	0.098	4	0	0	0	0	0	
3	Provisioning of RCP (in '000')	Existing	37	38.89	8	38.89	9	42.57	9	46.25	11	46.25	Equated subsidy for already installed RCPs and front loaded & equated subsidy for new installations. Agreement is up to September 2007
		Addition	27	7.37	9	3.67	9	3.7	9	0	0	0	

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Sl. No.	Name of the Activity		Annual Targets		Quarter 1		Quarter 2		Quarter 3		Quarter 4		Remarks
			Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	
4	Provision of VPTs in uncovered villages (000)	Existing	65	46.43	13	46.43	15	54.08	17	61.72	20	66.82	Equated subsidy for already installed VPTs and front loaded & equated subsidy for new installations. Agreement is up to November 2007.
		Addition	71	20.37	20	7.64	19	7.64	19	5.09	13	0	
5	Rural Household DELs installed from 1.4.02 to 31.3.05 (in lakh)		415	18.65	205	18.65	70	18.65	70	18.65	70	18.65	Equated subsidy for already installed RDELs
6	Rural household DELs installed from 1.4.05 to 31.3.07 (in lakh)		850	20	500	20	200	20	75	20	75	20	Equated subsidy for already installed RDELs and front loaded subsidy for RDELs installed up to 31/03/2007

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Sl. No.	Name of the Activity	Annual Targets		Quarter 1		Quarter 2		Quarter 3		Quarter 4		Remarks
		Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	
7	Provision of Shareable Infrastructure for mobile services (No.of towers)	900.00	4000	0	0	0	1000	250	1500	700	1500	Subsidy support towards passive and active infrastructure
8	Provision for Broad band connectivity in Rural & Remote areas	200	0	0	0	0	0	0	2000	200	2000	Scheme under pipeline. About 4000 Block HQ will be covered by 31st March, 2008.
	Total Estimated Requirement of Funds (FY 2007-08)	3000.00		861.00		431.00		558.00		1200.00*		Funds of Rs.3000 crore demanded under BE 2007-08

Notes:-

** (i) Against a demand of Rs 3000 Cr USOF was allotted only 1800 Cr. Hence Rs 1200 Cr shown in quarter (iv) will be utilized after allotment of fund at R.E Stage.*

(ii) The above target figures are estimated and subjected to actual disbursement based on timely submission of claims by USPs[21] and number of facilities actually provided and/ or working.

(iii) Subsidy claims are received and disbursed in arrears after completion of quarter in which facilities are provided and/ or remained operational.

(iv) The physical numbers during the quarter represents the number of facilities for which subsidy is to be paid during the following quarter, including those existing at the beginning of the quarter and eligible of subsidy.

(v) Under O & M of VPTs & RDELs installed from 1.4.2002 to 31.3.2005, the facilities are already existing for which subsidy is to be paid

(vi). Sl No (3) during 2007-08 total 11132 RCP will be provided by September 2007.

[21] Universal Service Providers

Annexure - B

TELECOM ENGINEERING CENTRE

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
1	Up gradation of TEC Intranet	The speed of existing intranet shall increase and also the access. Mail Server shall be provided to improve mail access		0.40		Procurement and Installation of Equipment			
2	VoIP Test Bed	Capital goods procurement for establishment of manufacturing infrastructure and payment of TOT fee to Collaborator		0.06		Procurement and Installation of Equipment			
3	Ascon Phase IV	Procurement of Testing tools and accessories for CDMA		0.71		Procurement and Installation of Equipment			
4	Procurement of PCs, Laptop for Office automation	Office Automation		0.14		Procurement and Installation of Equipment			
5	CPE Lab	To carry out testing and certification of NGN compliant CPEs and terminals		3.92		Procurement and Installation of Equipment			

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TELECOM ENGINEERING CENTRE

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
6	Transport Lab, including IPv6 Test Lab	To carry out testing and certification of NGN compliant transport equipment		3.80		Procurement and Installation of Equipment			
7	Access Lab	To carry out testing and certification of NGN compliant Access Network equipment		3.75		Procurement and Installation of Equipment			
8	Control Lab	To carry out testing and certification of NGN compliant Control Equipment		2.85		Procurement and Installation of Equipment			
9	Application/ Services Lab	To carry out testing and certification of NGN compliant Applications/ Services equipment		2.85		Procurement and Installation of Equipment			
10	Infrastructure	Upgrade of infrastructure for accommodating labs and staff		1.40		Changes in the building infrastructure			
11	Foreign Training of TEC Personnel	To keep the officers of TEC abreast with new developments in new technologies in the telecom sector		0.37					
	Grand Total			**20.25**					

Annexure - C

WIRELESS PLANNING COORDINATION

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
1	International Co-operation-ITU Geneva	India's share of contribution towards the Budgetary Expenditure of the ITU is an international commitment on part of Indian Administration. Indian Administration pledged/announced retention of 5 unit class of contribution during ITU Plenipotentiary Conference - 2002 for the period 2004-2007. While choosing the class of contribution, there are several factors such as prestige of the country, national interest, and involvement of India in ITU matters etc. which are kept in view. It is pertinent to mention that India has been re-elected to the ITU Council' thus retaining its seat on the Council continuously since 1952. Further, the Wireless Adviser to the Government of India has been elected as Member of the Ratio Regulations Board (RRB) during last Plenipotentiary Conference of the ITU. Thus, it reflects the confidence enjoyed by India among ITU Membership.							

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WIRELESS PLANNING COORDINATION

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
2	National Radio Spectrum Management and Monitoring System (NRSMMS)	Completion of the project.		4.00		Spill over of activities related to Fixed sites/completion of those remaining sites which could not be completed in last quarter of 2005-06	The automation of RF spectrum management will result in effective and efficient spectrum management as well as efficient frequency assignment.	1st Quarter	

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WIRELESS PLANNING COORDINATION

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
						Tower Installation work at Goa, Jallundher and Installation of LAN/Wan, Workstations etc. at Siliguri		2nd Quarter	
						Operational Acceptance of NRSMMS		3rd Quarter	
						Final Payment		4th Quarter	

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WIRELESS PLANNING COORDINATION

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
		V/UHF MMS vehicles		7.00		Spill over of delivery related to V/UHF MMS Vehicles to respective sites and related payment		1st Quarter	
						Nil		2nd Quarter	
						Operational Acceptance of NRSMMS		3rd Quarter	
						Final Payment		4th Quarter	
		SHFMMS vehicles				Proposed for cancellation			
		SHF Fixed site				Proposed for cancellation			
		Salary, O/E etc		0.40		Payment towards salary, SOI for DTM etc.			
	Grand Total			**11.40**					

Annexure - D

WIRELESS MONITORING ORGANISATION

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
1(a)	Augmentation of Training facilities	Augmentation/ Upgradation of Wireless Monitoring training facilities		3.00		Training of personnel in spectrum Monitoring & Management		Nil	Subject to approval & Concurrence
1(b)	Expansion of Monitoring Facilities (EMF)*	Augmentation/ Upgradation of Wireless Monitoring training facilities				Purchase of H/ware, S/ware & installation/ integration & hiring of consultants for finalizing the Technical specifications, quantum of requirements, bidding documents & placing of orders etc		Nil	Subject to approval for formation of PIU (at 3) & suitable response from final bidders

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WIRELESS MONITORING ORGANISATION

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
1(c)	Project Implementation Unit	To implement the schemes at 2 below.				Salary, Payment for professional and special services, traveling & Office Expenses etc		Staff & Establishment is required for managing the project at 2 below.	Subject to approval & Concurrence
2	Civil works (in two A/c Heads, MH 4059/4216 (by Min. of Urban Dev)	Miscellaneous Civil works such as proc. of land, const. of office bldg, staff qtrs. Const. of ancillaries etc.		12.00		Civil Works		Procurement of land & Civil Construction works	Subject to concurrence & execution (by CPWD)
	Grand Total			**15.00**					

***Expansion of Monitoring facilities consists of following schemes:**

1. Establishment of Remote Wireless Monitoring Stations (8 Nos.).
2. Augmentation/Upgradation of Microwave Terminals (20 Nos.).
3. Establishment of Satellite Monitoring Earth Stations (1 No.).
4. Regional Maintenance Centres at Chennai, Delhi, Kolkata & Mumbai & Shillong.

Annexure - E

CENTRE FOR DEVELOPMENT OF TELEMATICS [C-DOT]

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
A- Continuing Scheme									
1	Advanced Intelligent Services	Development of converged Intelligent Networks (IN) solution that would provide the convergence of NGN network with the fixed line IN network		2.50		IN solution for Converged Networks – NGN[22]		Q4: IN services for IP networks catering to C-DOT NGN solution	Major aspects of IN have already been developed and deployed. This year the focus will be to complete the remaining Research & development activities for IN solutions that will unlock the opportunities offered by the Internet and Voice over packet technology (VoIP) in the converged network domain. The development of soft SSP for NGN networks will be taken up.
2	High bit rate network on Fiber & Satellite	Development of high capacity systems for transport over Fiber & Satellite		7.10		Enhanced E3 IDR in C-Band for NER		Q2: System integration & validation	E3 IDR modem, compliant to TEC GR, enhanced with bandwidth efficient coding & modulation, is being developed for North Eastern Region(NER), for operating over C-Band, as a backbone network

[22] Next Generation Network

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
						[23]EPON based Broadband for Metro Ethernet (Duration: 2 years)		Q2: Study of standards & finalization of specs & Architecture based on EPON. Q4: Finalization of chipsets & preliminary design documents [2008-09 : Completion of development & validation]	EPON, based on **IEEE** standards, is emerging as the preferred technology to deliver broadband services, especially Triple Play, due to the simplicity of its architecture for transport of native Gigabit Ethernet packets. Hence, transport through EPON upto the Junction box (Node) and premise delivery across some copper based technology, will offer an economical end-to-end solution for delivery of broadband for metro networks.
						Development of different types of ONTs[24] which will cater to SOHO[25]/Residential customers for delivery of triple play services		Q1, Q2: Design of different types of ONTs. Q3: SOHO ONT. Q4: Residential ONT.	Additional GPON[26] ONTs

[23] Ethernet Passive Optical Network
[24] Optical Network Terminal
[25] Small Office/Home Office
[26] Gigabit Passive Optical Network

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
3	Cell & Packet Technologies for Voice & Data Communications	Development and integration of IP/MPLS routers, VoIP Media gateways and the signaling gateways		5.30		(a) Indigenous Signaling Gateway. (b) Indigenous Media Gateway. (c) New NGN Services.		Q2: Specification of new NGN services. Q3: Integrated trials of CDOT Next Generation System. Q4: New services prototypes as per specifications document.	Development and standalone testing of individual signaling gateway and Media Gateway components will be achieved in financial year 2006-07. New products, developed by CDOT will be substituted in the ongoing NGN trials. New NGN services will be added to the NGN trials.
4	Product Support/ Enhance-ments	To add/enhance features/facilities to the C-DOT developed technologies		38.00		Portfolio expansion of lawful interception & monitoring functions for mobile switches by adding MMS and GPRS interception functions also.		Q1: MMS interception Q2: GPRS interception Q3, Q4: Other features as per customer's requirement	Feature enhancement of CIIS
						Enhancement of clearing house to include international roaming		Q1 to Q4: To support various versions of roaming formats as per requirements of different operators	Feature enhancement of OSS

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
						CDOT MAX Digital Switching System Enhancements resulting in migration to Next Generation System		Q1: Validation of Signaling Gateway Module Q2: Development of Media Gateway module Q3: Development of Access Gateway module Q4: Testing of Media Gateway	CDOT has a large deployed base of PSTN technology which would be upgraded to the latest VoIP technology under this program
						CDOT's existing Rural exchanges will be upgraded for providing VoIP services using standard interfaces		Q1: Architecture finalization of Signaling and Media gateway functions Q2: Implementation of Signaling and Media Gateway function Q4: Testing of Signaling and Media Gateway function	This project will equip the RAXs with VoIP capability. This capability will enable the RAXs to be integrated directly into the next generation networks of the operators
						Wireless Intelligent Network feature enhancement		Q1-Q4: Features like content based charging, advice on charge to be implemented progressively	Feature enhancement of CDMA IN (WIN)

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
						Enhancement of BWA[27] in an additional RF band		Development & integrated trials of BWA in an additional RF band	CDOT has developed and tested SDR based GSM and Broadband Wireless Access system. Field trials of the systems have commenced in the year 2006-07; trails relating to an additional RF band operation will be completed in the year 2007-08.
						Transmission NMS		Q1, Q2: Proof of concept with two vendor technologies	To explore the feasibility for nation wide deployment of transmission NMS including heterogeneous networks & technologies
						Additional interfaces in WDM technology		Q2: 10G interface for DWDM Q4: Multichannel transponder for CWDM	Enhancement in Wavelength Digital Multiplexing (WDM) technology
5	Field Support Activities	Support for C-DOT technology installed in the field		34.00		(a) Completion of ongoing SDG GSM pilot trials (b) Completion of ongoing BWA trials		Q2: Integrated Trial of C-DOT Rural Wireless in GSM band & Broadband Solution in the new band	Field Support for trials of Rural Wireless installed in the field

[27] Broadband Wireless Access

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
						© Support for C-DOT switches		Continuous, ongoing process	Field support for various C-DOT switches & provide upgrade/patches
6	Campus Infrastructure	Construction of residential facilities for CDOTians within the Delhi campus area, to facilitate flexible working hours conducive for R&D culture		6.57		Construction of dwelling & Hostel facilities for C-DOT staff & Project Board		Q1 to Q4: Evaluation of offers against Tender enquiries, Placement of the PO & commencement and progress of the construction work	Major portion of the work, namely, R&D building and associated services have been completed and full fledged, state of art labs & offices are operational from the premises of Delhi Campus. However, construction of residential accommodation could not commence so far, awaiting statutory bodies' approval. This remaining part of the scheme will be completed in just about one year of the 11th Plan (2007-08).
7	Security Management for Law Enforce-ment Agencies	With the massive foreseeable increase in subscriber base from the existing about 150 millions to 400 millions over the next five years period there is need for		15.40		Study & high level design of Lawful Interception system and End-to-end secure Workflow		Q4: Finalization of high level design for end-to-end secure work flow	Workflow automation that can authenticate digitally Law Enforcement Agency and the telecom operator. Information will be sent via encrypted tunnels and digitally signed to ensure the integrity of information is preserved

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
		development of computational approaches using artificial intelligence techniques, biometric devices, crypto analysis, voice recognition technologies, grid surveillance, encryption/ decryption, mining data bases etc. for security of the telecom and data networks and to provide useful inputs to the national security agencies				Study and high level design for creating identity Matrix and Social Networking Analysis		Q4: Finalization of High level design.	Creating a national identity database for all individuals and analysis of call data records using advanced machine learning and A1 techniques, to build and tune a system that analyses the CDRs and finds specific calling patterns and identifies social networks that could possibly be involved in unlawful activities

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
8	Technologies for North Eastern Region (New)	To provide IP based Broadband access & transport for VoIP & Multi-media for NER		3.50		Point to Multipoint Packet technology for Access over Ku band (or suitable band) Satellite. (Duration: 2 yrs & 9 months) For deployment, the hub gear will be integrated with an operational Earth Station		Q2: Study of standards & finalization of Specs. Q3-Q4: Finalization of Software/Hardware Architecture [2008-Q3 2009: Completion of Development & Validation]	The system will comprise of a Hub gear [to be integrated to an existing, operational Ku Band earth station] and Remote Integrated Satellite Terminals [integrated with Antenna, RF, MOCEM etc.]; it will provide IP transport over Satellite with Return channel, for providing VoIP & Multimedia with QoS(Quality of Service) and BoD (Bandwidth on Demand). The decision on appropriate band will be taken during the development
9	Rural Technologies (New)	Provisioning of broadband and end-to-end VoIP services in rural areas		2.50		VoIP based rural broadband access node		Q2: Architecture finalization Q4: Interfacing with external call engine	The VoIP based rural broadband access node is an IP based node for providing low cost voice services to rural subscribers over wireless interfaces. This product also leverages on technologies developed by CDOT under an earlier Rural Wireless Access (RWA) program for providing data and internet access in rural areas. This project will ensure provisioning of end-to-end VoIP services and their interworking with PSTN users

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable / Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
10	Broadband Technologies	Development Multichannel metro aggregation platform for transport of multiple types of client interfaces		1.70		Development of Basic platform of Multichannel metro aggregation platform for one type of client interfaces		Q1: Study & finalization of architecture Q4: Design and development of hardware and software subsystem	This platform will be suitable for aggregation of multiple types of client interfaces viz. SDH, Optical, Transport Network (OTN), GbE (Gigabit Ethernet) etc. onto a coloured STM-64 or Optical transport Unit (OTU-2) interface for the purpose of efficient carriage in a metro environment. Multiple such coloured signals carrying different data corresponding to multiple clients can then be transported through a single optical fibre in either a linear or ring topology of nodes based on this platform
		Broadband delivery on VDSL2[28]				Development of VDSL2 interface for EPON, with integrated NMS (Duration : 2 years)		Q2: Study of standards & finalization of specs & Architecture based VDSL2 Q3-Q4: Finalization of chipsets & preliminary design documents; Finalization of specs for Integrated NMS (2008-09 : Completion of development & validation)	VDSL2, based on **ITU** standards, outperforms other copper based access technologies. VDSL2, developed under this scheme, will be interfaced to the EPON, developed under High Bit rate scheme; this provide an economic, end-to-end solution, wherein, Broadband will be transported through EPON upto the Junction box (Node) and premise delivery across VDSL2, offering a metro-wide footprint

[28] Very High Data Rate Digital Subscriber Line

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable / Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
11	Strategic & Enterprise Solutions (New)	Development of state of art Transmission Network Management system for centralized supervision and analysis of a diverse set of transmission technologies for enhancing operational efficiency, fast service delivery with Business layer integration for various types of Transmission technologies		2.30		Development of NMS for multi-technology and multi application Transmission Networks		Q1: Study of transmission network-network elements, their EMSs, services, policies & Administrative/ operational requirements Q2: Finalization of Architecture with detailed Statement of Requirements Q3: to Q4: Design and development	The Transmission NMS and its operations are specialized requirements of Network operators as the transmission network is a very wide & heterogeneous, consisting of various transmission technologies, supplied from various vendors also employing non-standard EML-NML layer interfaces

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
		Project-wise customization and deployment of CDOT ATM based systems for multiple defense applications and multiple projects				Mandatory testing for inducting CDOT systems in defense applications across multiple projects will be conducted jointly by CDOT and the defence agency and developments relating to customization, prototyping and testing stems for new defense projects will be undertaken		Q1: Study and analysis of adaptations for additional defense applications Q2: Adaptation planning for new projects applications	Such customization associated developments need to be undertaken for other Naval programs, wherein, CDOT ATM based technology will be project-wise customized. Development work related to each project will be taken up as a different deliverable under this scheme
		Provisioning of innovative computer based voice applications and solutions				Development and testing of Computer based voice services		Q1: Finalization of requirements for new services Q2: Development of new services Q3: Implementation and testing of new services Q4: Field trials of new services	CDOT has developed a platform for provisioning of computer based voice applications. New interactive applications like Group Message System, Fault Repair Service etc. will be implemented on this platform and put on field trials.

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
12	Enhancements/ New Features/ Upgradation/ Adaptation/ Technical support for developed technologies			2.20					This scheme focuses on development for enhancements like evolution/ migration, feature addition, scalability etc. and support activities like trials, software/ & hardware patches/ solutions for technologies developed/deployed
13	Basic Research on Telecom Network & Enabling Technologies/ Study/ Pilot Projects (New)	This scheme focuses on conducting basic research on areas like Spectrum management, Quality of service, Network and service optimization, enabling technologies and techniques, feasibility studies on emerging/ green field technologies and on piloting trials through partnerships to gain operational insights and an appreciation of technical/logistic issues		1.00		Study Project: Digital Up/Down Converters for Software Defined Radios (SDR)		Q1: Study & Finalization of specs Q2: Prototype Digital Up/Down Converter for Software Defined GSM base station radio	In SDRs, Digital Up/Down Converters are intermediate subsystems between digitally implemented MODEMs and analogue RF front ends; they generically comprise of NCOs, high speed ADCs & DACs, so that they can be driven by the system software

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
						Study Project: High Speed Packet Technology		Q2: High capacity Media Gateways with support for wireless codecs Q4: High capacity IP routers	Scalable, high capacity Media Gateways & IP routers would be required in large, unified Networks spanning various wireless, Cellular & legacy wire line networks
						Pilot Project: CDOT Next Generation **DSS** Technology Trials		Q4: Field trials of MAX next generation enhancements	Trials of VoIP enhancements made to CDOT MAX technology will be field tried in the operators' networks before clearing the enhancements for mass deployment
						Pilot Project: High throughput, enhanced Wi-Fi Mesh Network: A campus Network for surveillance		Q1: Campus surveillance requirement specs, finalization of Performance Measurement metrics Q3: Market survey & Ordering	Next generation, enhanced Wi-Fi technology is evolving, for providing near wire line speed. A campus network will be set up to study its performance related issues, for future integration/development for North Eastern regions.

C-DOT (contd…)

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
14	C-DOT Alcatel Research Centre (CARC) (Cabinet Approved Schemes)	CARC is a joint venture program between C-DOT & Alcatel approved by the Cabinet during the 10th plan period to establish Broadband & Wireless Access Research Centre in India		39.00		Mobile WiMAX technology			C-DOT's contribution in joint venture is Rs.104.00 crore which comprises of equity & loan. The equity component is Rs.52.00 crores spread over 3 year period from 2005-06 to 2007-08 & loan component of Rs.52.00 crore is spread over 4 years from 2006-07 to 2009-10. Under the 11th Plan, this joint venture program will continue the research and development of Wireless broadband and supporting technologies First amongst the deliverables is mobile WiMAX technology
		Grand Total		**161.07**					

Note: Once the 11th Plan is approved, additional provision/re-appropriation within the proposed total outlay may be sought for new schemes by RE stage including corresponding changes in the deliverable & time lines for the year 2007-08 for which only small provisions have been made initially for the first year of the 11th Plan. All schemes would start during the first year of the 11th Plan.

Annexure - F

TELECOM REGULATORY AUTHORITY OF INDIA

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
1	Institutional Capacity Building Project of TRAI	To strengthen the institutional capabilities of TRAI to perform its functions under the TRAI Act including carrying out of consultative studies on regulatory issues and provision of training	NIL	3.00	Nil	(a) Consultative studies/ workshop on regulatory issues	The proposed studies will help TRAI in formulating its recommendations and in other regulatory functions	To be completed during 2007-08	Nil
						(b) Provision of Training for TRAI officials on Technical and regulatory issues	To meet the training needs of TRAI officials		
	Grand Total			**3.00**					

Annexure - G

TELECOM DISPUTES SETTLEMENT AND APPELLATE TRIBUNAL

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
1	Up gradation and maintenance of Reference Library	Continuation of Appointment of Computer Programmer for networking of reference library		0.10				1st Quarter	
		Purchase of books and developing of case monitoring system						2nd Quarter	
		Purchased of books & establishment of networking of reference library						3rd Quarter	
		Purchase of books						4th Quarter	
2	Study tours of Hon'ble Chairperson/ Members and training of staff	Identification of countries where study tours of Hon'ble Chairperson/ Members are to be undertaken, training institutes where staff can be trained and where possible study tours/training arranged		0.75				1st Quarter	Since the it nary depends on the action taken in the first quarter, targets have to be fixed accordingly for the next three quarters

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TELECOM DISPUTES SETTLEMENT AND APPELLATE TRIBUNAL

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
3	Holding of Seminars	Identification of places for organizing the Seminars and organizing one Seminar in the 1st quarter		0.40				Each Quarter	Action taken would depend upon the identification of places in the first quarter and subsequent seminars will be held at the identified locations/cities. Efforts would be made to hold one seminar in each quarter
4	Appointment of Legal Consultant	Continuation of Appointment of Legal Consultant							As the period of one-year contract with existing consultant is over in November 2007, process has been initiated to engage another consultant
	Total			**1.25**					

Annexure - H

BHARAT SANCHAR NIGAM LIMITED

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
1	DELs (Direct Exchange Lines)	Provision of DELs on demand		20748		Total 100 lakh 1st Quarter 10 lakh 2nd Quarter 20 lakh 3rd Quarter 30 lakh 4th Quarter 40 lakh		DELs target include (i) 85 lakh for mobile connections (ii) 15 lakh for fixed connections	
2	Rural DELs	Help raising the Rural Teledensity				Total 10 lakh 1st Quarter 1 lakh 2nd Quarter 2 lakh 3rd Quarter 3 lakh 4th Quarter 4 lakh			
3	VPTs (Village Public Telephones)	Provision of VPTs as per USO agreement				Total 20000 1st Quarter 2000 2nd Quarter 4000 3rd Quarter 6000 4th Quarter 8000			

Contd…]

BHARAT SANCHAR NIGAM LIMITED

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
4	Broadband connections			2133		Total 10 lakh 1st Quarter 1 lakh 2nd Quarter 2 lakh 3rd Quarter 3 lakh 4th Quarter 4 lakh			
5	Internet connections					Total 8 lakh 1st Quarter 0.8 lakh 2nd Quarter 1.6 lakh 3rd Quarter 2.4 lakh 4th Quarter 3.2 lakh			
	Grand Total			**22881**					

Annexure - I

MAHANAGAR TELEPHONE NIGAM LIMITED

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
1	Switching (including TAX/Tandem) and Access lines (including CDMA/WLL Handsets, GSM) in existing and new areas	Increase in net switching capacity		1542		**i)** Additions of 2000K lines in net switching capacity including capacity of WLL & GSM **ii)** Additions of 200K lines of TAX/Tandem/ NGN capacity **iii)** Additions of 60000 Optical Fibre Kms. **iv)** Additions of 1250K ports of DLC/DSLAM/ FTTH and metro Ethernet ports		Tender decided and PO for 750K 2G lines each for Delhi and Mumbai have already been placed on M/s Motorola & M/s ITI respectively. PO for adding 1250K 2G/3G lines each for Delhi and Mumbai shall be placed subsequently	Delay in supplies by supplier, A/T, problem in site acquisition. Delay in permission of digging/ laying of ducts for cables
2	IT related services	Convergent billing		267		i) Convergent billing		To be completed by 31.12.2007	

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MAHANAGAR TELEPHONE NIGAM LIMITED

(Rs. in crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**
3	International Long Distance Operations	To start ILD operations		500		To start ILD operations		Joint venture with BSNL for laying of submarine cable by 30.9.2008 for carrying ILD traffic of MTNL and BSNL and also for leasing out extra bandwidth to other carriers	Finalization of tender by Aug. 2007
4	Expansion in New Service Areas Abroad and National acquisitions	Service in Overseas operations				To expand in other areas		Subject to the availability of suitable opportunities	
	Grand Total			**2309**					

Annexure - J

DoT PROJECTS

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
1	Undersea Cabling between Mainland & A&N Islands (UMA&N)	To connect the Mainland with the Islands of A&N.		1.00		Laying of the undersea cable	Better connectivity	Details of the Project are being worked out	Token provision has been made
2	Setting up of Telecom Testing and Security Certification Centre (TETC)	Setting up of a research Centre for creating a test bed for testing telecom equipment		6.00		Assisting Government in telecom policy & regulation	Ensuring Security in telecom. Referral agency for Technology adoption and security evaluation & surveillance	The project is expected to take more than 18 months i.e. by 2009	
3	Technical Assistance in Telecom Sector (TAT)	Providing technical assistance for promoting investment in the manufacturing sector and export of telecom equipments.		2.00		Hosting of India Telecom 2007 and more such event	To project India as the next hub for telecom equipment manufacturing and showcase the telecom growth in the country	Ongoing activity	

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DoT PROJECTS

(Rs. in Crore)

Sl. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2007-08			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			Non-Plan Budget	Plan Budget	Comple-mentary Extra-Budgetary Resources				
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
4	OFC based network for Defence Services (DS)	To provide alternate network for Defence Services for releasing spectrum		150.00		OFC network will be laid for Defence Services	Alternate network on release of spectrum by Defence Services		

CHAPTER – III

Reform measures and Policy initiatives

3.1 Introduction

Indian Telecommunication sector has undergone a major process of transformation through significant policy reforms, particularly beginning with the announcement of NTP 1994. The major thrust of NTP 1994 was on universal service and qualitative improvement in telecom services and also, opening of private sector participation in basic telephone services. An independent statutory regulator was established in 1997. The most important landmark in telecom reforms, however, came with the New Telecom Policy 1999 (NTP-99). Rather than insisting on the prior fulfillment of its revenue obligations, NTP-99 allowed service providers to "migrate" from fixed license fee regime to a revenue sharing regime. Recognizing that broadband services can contribute significantly in the growth of national economy, Department of Telecom, announced Broad policy 2004 in October, 2004.

3.2 National Telecom Policy, 1999

A world-class telecommunication infrastructure is a key to rapid economic and social development of the sector. It is critical not only for the development of the communications and information technology industry but also has wide spread ramification in various other sectors of the economy. Keeping these objectives in mind, the Government laid down the New Telecom Policy, 1999 (NTP, 1999). The guiding principles of the NTP are as follows:

- To make available affordable and effective communications for all citizens.
- To strive to provide a balance between the provision of universal service to all uncovered areas, including the rural areas, and the provision of high-level services capable of meeting the needs of the country's economy;
- To encourage development of telecommunication facilities in remote, hilly and tribal areas of the country;
- To create a modern and efficient telecommunications infrastructure taking into account the convergence of IT, media, telecom and consumer electronics and thereby propel India into becoming an IT superpower;
- To convert PCOs, wherever justified, into Public Teleinfo Centres having multimedia capability like ISDN services, remote databases access, Government and community information systems etc.
- To transform in a time bound manner, the telecommunications sector into a greater competitive environment in both urban and rural areas providing equal opportunities and a level playing field for all players;
- To strengthen research and development efforts in the country and provide an impetus to build world-class manufacturing capabilities;
- To achieve efficiency and transparency in spectrum management.
- To protect the defense and security interests of the country.
- To enable Indian telecom companies to become truly global players.

The key policy provisions of NTP-99 are:

1. As mentioned earlier, a significant shift from the fixed license fee regime to a license fee regime based on revenue sharing mechanism.
2. Interconnectivity and sharing of infrastructure among various service providers within the same area of operations is permitted.
3. Separation of policy and licensing function of the DoT from service provision function.
4. National long distance services sector to be opened to competition from January 1, 2000.
5. Service providers would carry both voice and data-traffic.

The broad policy provisions as laid down in NTP 99 have been implemented by Government in letter and spirit. Full competition has been ushered in through unrestricted entry in almost all the service sectors. The migration package from fixed licence fee regime to revenue sharing basis was implemented. The policy and licensing functions of DoT have clearly been delineated from the service provisioning. National as well as international long distance services sector has been opened to full competition.

Keeping in view the rapid expansion of telecom services and the fact advances in technologies erase distinctions imposed by earlier licensing systems, Government introduced in November, 2003 the following categories of licences for telecommunication services :

(i) Unified Licence for Telecommunications services permitting Licensee to provide all telecommunication/telegraph services covering various geographical areas using any technology;

(ii) Licence for Unified Access (Basic and Cellular) services permitted Licensee to provide Basic and/or Cellular Services using any technology in a defined service area.

3.3 Broadband Policy 2004

Broadband services contribute significantly in the growth of GDP and enhancement in quality of life through societal applications including tele-education, tele-medicine, e-governance, entertainment as well as employment generation. Broadband connectivity is defined as "*an always on data connection i.e. able to support interactive services including internet access and has the capability of the minimum download speed of 256 kbps to an individual subscriber from the point of presence (POP) of the service provider intending to provide broadband service*." The estimated growth for broadband and internet subscribers in the country envisaged through various technologies is as follows:

Year Ending	Internet Subscribers	Broadband Subscribers
2005	6 million	3 million
2007	18 million	9 million
2010	40 million	20 million

The Broadband Policy 2004 visualizes creation of the infrastructure through various access technologies such as Optical Fibre, Digital Subscriber Line (DSL), Cable TV Network, and Satellite Media etc. The Government has decided to mark 2007 as the year of the Broadband with a target for Broadband connectivity set at 9 million with a maximum speed up to 2 Mbps.

3.4 Thrust areas of the Department

The focus of Department of Telecommunication, with respect to telecom is on evolving a strategy for the development of world class infrastructure for accelerated growth of all sectors, bridging the digital divide, an optimum utilization of spectrum; focus on policy recommendations for promotion of private sector including FDI and to review the performance of telecom equipment manufacturing sector. The thrust areas identified by the Department are as follows:

1. **Network Expansion**

- Provision of 250 million connections by 2007 and 500 million connection by 2010 (575 by 2012).
- Provision of mobile coverage of 85% geographical area by 2007.
- 45 MHz of additional spectrum from Defence to be made available for the growth of mobile services.

2. **Rural Telephony**

- One telephone per three households by 2007 (about 50 million rural connections) and one phone per two rural household by 2010 (about 50 million rural connections).
- Mobile access to all villages with population of more than 1000 by 2007.

3. **Broadband**

- Broadband coverage for all secondary and higher secondary schools by 2007.
- Broadband coverage of all public health care centres by 2007.
- Broadband coverage for all Gram Panchayats by 2010.

4. **Manufacturing & R&D**

- Making India a hub for telecom manufacturing by facilitating more and more telecom specifics SEZs.
- Providing platform for export promotion of telephone equipment and services by setting up Export Promotion Council.

Chapter – IV

Review of Performance

A. Department of Telecommunication

4.1 Overview of the telecom sector

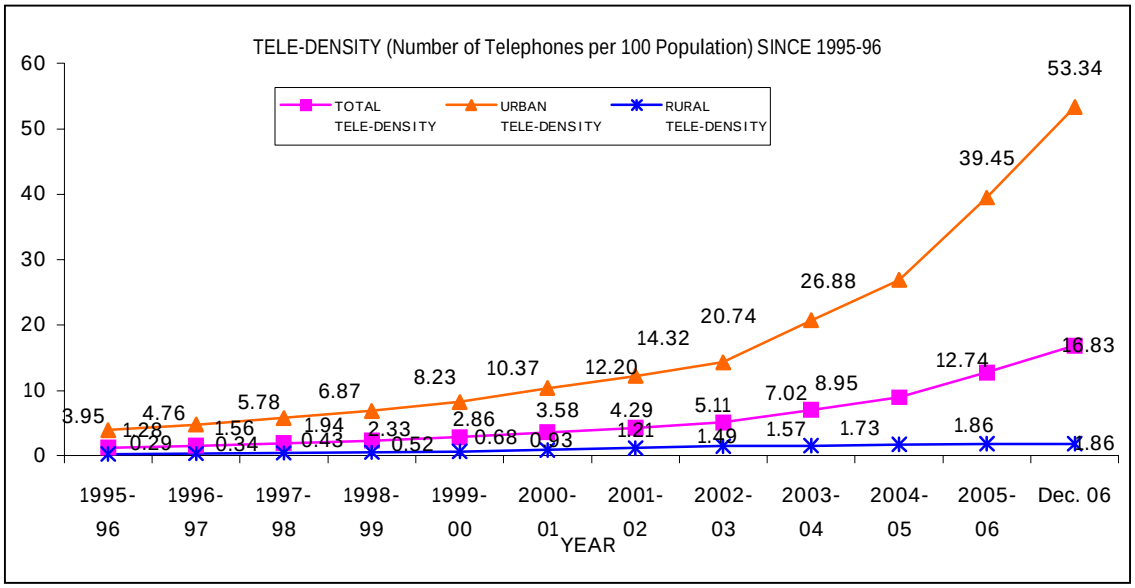
Telecommunication is one of the prime support services needed for rapid growth and modernization of various sectors of the economy. It has been especially important in recent years because of the enormous growth of Information Technology (IT) and its significant impact on the rest of the economy. Acknowledging the same, policy initiatives of the Government have been focused on bringing complete transformation in the sector.

4.1.1 Network Expansion and structural transformation:

During December 2006, a total of 64.65 lakh telephones were added, increasing the number of phones to 1899.21 lakh as on December 31, 2006. The additions during December 2006 have increased by 26.34% over the number of additions (51.17 lakh) during the same month last year. A point-to-point comparison (December 2005 – December 2006) shows an increase of 50.98% in the number of telephones as shown below:

Parameter	Number of additions (in lakh) during				Number as on	Growth during
	Dec.'05	Dec.'06	Apr.'05-Dec.'05	Apr.' 06-Dec.'06	31st Dec.'06	Jan. 01, 06 -Dec. 31, 06
Basic Phones	-0.85	-0.21	-15.40	0.97	403.23	1.10%
Wireless Phones	52.02	64.86	289.56	477.32	1495.98	74.14%
Total Phones	**51.17**	**64.65**	**274.16**	**478.29**	**1899.21**	**50.98%**
The number of CDMA (PSUs & Pvt.) at the end of Dec.'06 are (in lakh)					**441.73**	

The **tele-density**, which was 11.32% as on December 31, 2005, now stands at 16.83% as on December 31, 2006.



4.1.2 Compositional changes:

During the period April to December 2006, 478.29 lakh telephone connections were added in the telecom network and the average addition per month during the current financial year upto December 2006 has been 53.14 lakh connections. The relative performance in the Telecom sector when compared with 2005 is detailed at Annexure - "K". Similarly a comparison of the performance in telecom sector for the period 1st April to December 2005 vis-à-vis April 2006 to December 2006 is shown as bar diagram at Annexure - "L".

The public sector has added 6.97 lakh phones during December 2006 as against 57.68 lakh phones added by the private sector. The Operator-wise position is given below:

Operators	Upto Dec '06	Addition during the year 2006-07	% age in Total upto Dec '06
BSNL	60,177,380	5,018,205	31.69%
MTNL	6,297,786	373,358	3.32%
Total PSUs	**66,475,166**	**5,391,563**	**35.00%**
Private Operators	123,446,681	42,438,255	65.00%
Total (Fixed+CDMA+GSM)	**189,921,847**	**47,829,818**	**100.00%**

The comparative performance of BSNL/MTNL for the period April-December 2005 and April-December 2006 is placed at Annexure - "M".

The share of private sector in the number of telephones has increased from 54.54% (686.11 lakh) in December 2005, to 65.00% (1234.46 lakh) in December 2006 while the share of public sector has declined to 35.00%. The **share of wireless** in the total number of phones is 78.77% as on December 31, 2006 as against 68.29% as on December 31, 2005.

The preference for use of wireless telephony continues. This is confirmed from the rising share of wireless phones (GSM+CDMA), which increased from 68.29% as on December 31, 2005 to 78.77% (1495.98 lakh) as on December 31, 2006 (Refer Figures 1&2).

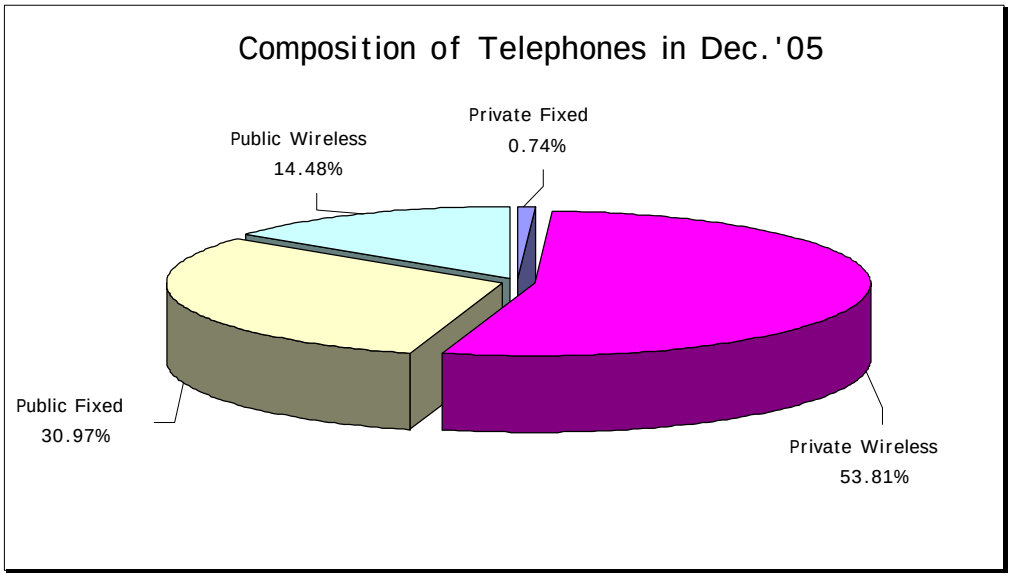


Figure 1: Composition of telephones in December 2005.

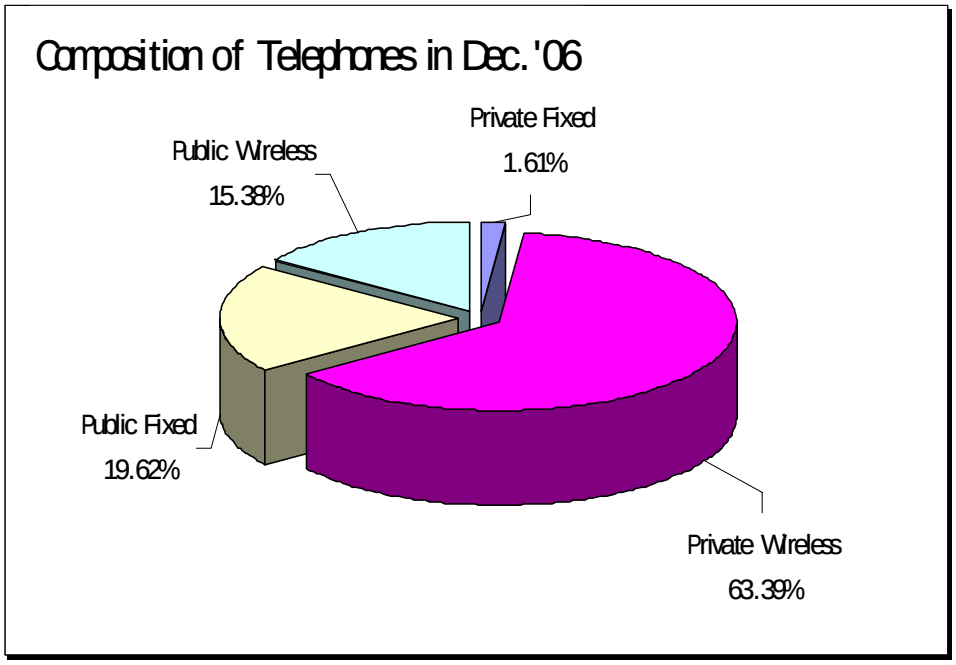


Figure 2: Composition of telephones in December 2006.

4.1.3 Rural Telephony

Improving rural connectivity has been high on priority of DOT. Several measures have been taken in this direction.

- Ø Providing telephones in remaining unconnected villages is a component of Bharat Nirman. Bharat Sanchar Nigam Limited (BSNL) has been awarded the work for providing Village Public Telephones (VPTs) in all the remaining 66,822 uncovered villages by November 2007 with support from Universal Service Obligation Fund (USOF). As on 31st January 2007, 39741 VPTs have been provided.

- Ø To promote reliable connectivity, about 1, 50,000 MARR VPTs have been replaced with landline/FWT VPTs. The remaining about 50,000 MARR VPTs shall be replaced by June 2007.

4.1.4 Broadband

- Ø Broadband Policy announced in October 2004 with a vision of covering 20 million broadband subscribers by the end of 2010.

- Ø Nation-wide Broadband Services launched by BSNL & MTNL w.e.f. 14.1.2005 to cover 200 towns in one year. The spread now covers 600 towns with about two million connections given out of which share of BSNL/MTNL is 75%.

- Ø To encourage expansion of broadband connectivity at a faster pace, both outdoor and indoor usage of low power Wi-fi and Wi-Max systems in 2.4 GHz– 2.4835 GHz band has been delicensed. The use of low power indoor systems in 5.15 - 5.35 GHz & 5.725 - 5.875 GHz has also been delicensed.

4.1.5 Licensing liberalization

Several important initiatives have been taken to further liberalize the licensing norms with the objective of making telecom services available at affordable prices.

- Ø FDI Ceiling increased from 49 per cent to 74 per cent in the telecom services.

- Ø Annual licence fee for National Long Distance (NLD), International Long Distance (ILD), Infrastructure Provider-II, VSAT commercial and Internet Service Provider (ISP) with internet telephony (restricted) licences was reduced to 6% of Adjusted Gross Revenue (AGR) w.e.f. 1-1-2006.

- Ø Entry fee for NLD licences was reduced to Rs. 2.5 Crore from Rs. 100 Crore prospectively i.e. date of issue of amendment to the existing guidelines to that effect. Entry fee for ILD be reduced to Rs. 2.5 Crore from Rs. 25 Crore.

- Ø Lease line charges have been reduced to make the bandwidth available at competitive prices to facilitate growth in IT enabled services.

4.1.6 Tariff Reduction

- Ø Under the One India tariff plan, BSNL and MTNL have reduced their STD rates to Rs. 1 per minute for any destination in India w.e.f. 1st March 2006.

- Ø To facilitate speedy rural penetration entry handsets with a price-tag of Rs. 1700 have been launched. Efforts are on to make it available at about Rs 1000 in a year.

- Ø Project for submarine cable connectivity between India and Singapore, India and Gulf countries, initiated by MTNL and BSNL to provide cost effective international bandwidth.

- Ø Reduction in Roaming Tariff

4.1.7 Manufacturing

The Government has stepped up initiatives to promote manufacturing in the country.

- Ø As a result of constant follow up, various global Telecom & IT companies announced their investment plans in Telecom and IT sectors.

- Ø The growth potential and pro-active role of the Government has brought the major telecom companies like Nokia, Motorala, Ericsson, Flextronics, Elcoteq etc. into the manufacturing space of the country. The aim is for US $ 2 billion FDI in manufacturing and doubling the production in 2007.

4.1.8 Internet Service

- Ø ISP policy is one of the most liberal Telecom Policy. Licenses for Internet Service Providers are issued after announcement of ISP Policy on 6th Nov., 1998. from 1st April, 2002, ISPs have also been allowed to offer Internet Telephony Service after obtaining permission of the Telecom Authority

- Ø As per 31.12.06 there are 388 ISP licensees out of which 126 licensees have been permitted to offer Internet Telephony on their request. There are about 81 lakh internet subscribers in the country as on 30.09.2006

- Ø ISPs are permitted to set up their own gateways using satellite or Submarine cable medium after getting security clearance.

4.1.9 VSAT Services

The NTP 99 envisages grant of license on non-exclusive basis of Very Small Aperture Terminal (VSAT) service providers for a period of 20 years extendable one time by 10 years. Licenses on non-exclusive basis are awarded for VSAT service using INSAT satellite system within the territorial boundaries of India.

Under Closed User Group (CUG) VSAT service, the licensees provide Data Connectivity within CUG between various sites scattered throughout India using VSATs and Central hub. There are two categories of CUG VSAT licenses:-

(i) Captive CUG VSAT license wherein the licensee company can set up VSAT network only for the internal use of the licensee company.
(ii) Commercial CUG VSAT license wherein the licensee company can provide CUG VSAT service to number of CUGs on commercial basis.

- As on 31.12.2006 there are 11 licensees for commercial CUG VSAT services and the number of VSAT terminals under this service is around 56129.
- As on 31.12.2006, there are 31 Captive CUG VSAT networks and the number of VSAT terminals under this service is 9418.
- The rate of License fee/revenue share has been revised from 10% to 6% of the AGR w.e.f 01.01.2006.

4.2 Exhibitions, Seminars and Bilateral and International Cooperation/Meetings.

The Department of Telecommunications participated in the various national & international exhibitions, conferences, seminars & trade fairs during the period from April 2006 – Dec. 2006 as detailed below:

4.2.1 Bilateral Co-operations / Joint Commission Meetings:

1. H.E Elyes Kasri , Ambassador of Tunisia in India Called on Dr J.S. Sharma , secretary Telecom on 11th May 2006 in his chamber to discuss the issues related to 17th session of the ITU Plenipotentiary Conference (6th to 24th Nov 2006) and other bilateral issues.

2. H.E. Dr Tamerian Karayev, Ambassador of the Republic of Azerbaijan called on Dr. Shakeel Ahmad Hon'ble MOS(C&IT) on 5th May, 2006 in his chamber at Dak Bhawan to discuss the bilateral relation between Azerbaijan and India in the area of communication & IT and to explore means to strengthen them further.

3. Mr Marc Furer, President of Swiss Federal communication Commission (COMCOM) , Switzerland along with delegation called on Hon'ble MOS (C & IT) on 24th May , 2006 to seek our support for the Swiss candidate to the post of forth coming ITU Secretary General Election.

4. The 2nd Joint Trade Committee (JTC) meeting with the Republic of Ivory Coast was held on 3-4th August, 06 in Department of Commerce. The Minister of State for Commerce & Industry led the Indian delegation. DDG (IR) attended the meeting from DOT side.

5. H.E Mr Haji Abdul Ghafar , High Commissioner of Brunei- Darussalam in India , called on Hon'ble MOS (C & IT) in Dak Bhawan on 8th September, 2006.Both the dignitaries discussed the relations of India and Brunei-Darussalam in the Field of ICT .

6. 5th Indo – French Joint working Group on IT & Telecom was held in Paris at France from 19th to 22nd September, 2006. DDG (AS), DOT and Joint Wireless Advisor (N) ,

DOT were the representative from DOT in Indian delegation led by Secretary , Department of IT.

7. 3rd meeting of India – European Commission Steering Committee on Science & Technology Co-operation and associated bilateral – Inter agency preparatory meeting was held at Deptt of Science & Technology on 31st October , 2006. Advisor (O), DOT and Sr. DDG (TEC) attended the meeting from DOT side**.**

4.2.2 Visit of Ministers and other dignitaries/delegation to foreign countries

MoC & IT along with OSD visited Korea and Singapore from 18th – 25th June 2006 for meeting and interactions with Korean Government , Industry professional and with the officials of Semiconductor Companies.

MoC & IT along with his PS and JS (T) visited UK and USA from 13th – 20th July 2006 for attending bilateral/ Official meetings.

Secretary (T) along with DDG (VAS) visited USA for attending Indian Telecommunication Day from 11th 14th Oct 2006.

Member (S) lead a delegation to Thimpu , Bhutan for attending 17th Indo Bhutan operation meeting from 14th to 15 June 2006.

Member (T) along with Advisor (Fin) and Director (IR) participated in the 30th Session of the Management Committee Meeting of the Asia Pacific Telecommunity (APT) from 18-21 September 2006, at Maldives.

Member (T) along with Sr DDG TEC participated in the 3 GSM World Congress Asia 2006 at Singapore from 16th – 18th October, 2006.

In addition to above, 28 officers were deputed to foreign countries during the period April 06 to October 2006 in various events of APT, ITU-T, ITU-R, and ITU-D and other international and regional organizations, etc. as listed below:

SL No.	**Activity**	**No. of officers deputed**	**Place / Country of deputation**
1.	ITU-T /ITU-D& ITU-R	4	Bangladesh, Geneva , China , Bhutan , Canada.
2.	APT	7	China, Bangkok, Japan, Bhutan, Maldives.
3.	Misc.	17	Sweden, Korea , Singapore , USA , Thailand , UK, Philippines, France , Finland.

4.3 Telecommunication Engineering Centre (TEC):

(i) TEC is responsible for standardization activities in India for telecom sector, writing of specifications for all the telecom operators, accord Approval and Services test certificates etc. During the period from April 2006 to November 2006; under review, 11 GRs/ IRs were issued, 25 GRs revised and 5 GRs/IRs were amended. GRs issued included: Composite Optical Test Instrument (Power Meter & Light Source), Mediation Equipment and CDMA 2000 network Sub system for Lawful Interception; Location based Services / System (LBSS) for CDMA 2000 network, Intrusion Prevention System, Ethernet to E1 Converter etc.

(ii) TEC is engaged in the Type Approval/ Validation of the cutting edge technology systems including NIB-II, Synchronous Digital Hierarchy (SDH) and Mobile System based on GSM and CDMA standards, besides others. As part of its activity for according approval, 61 Interface Approvals issued for products for interfacing with the BSNL/ MTNL network and 240 Service Test Certificates were issued during the period April 2006 to November 2006 for the network coverage of private operators.

(iii) Test fee collection from vendors: During the period from April 2006 to November 2006, the fee collection from vendors is Rs.5.09 Crore. The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "N".

4.4 Wireless Planning and Co-ordination

The Wireless Planning and Co-ordination (WPC) Wing of the Ministry of Communications & IT is responsible for:

4.4.1 Radio Frequency (RF) Spectrum Management for terrestrial and satellite operations and Orbit-Frequency coordination in respect of Satellite Systems keeping in view ITU's Radio Regulations.

4.4.2 Assignment of radio frequencies for various radio services in India and all the related actions for national and international coordination.

4.4.3 Licensing of all wireless stations of various categories.

4.4.4 Coordination in all matters as national nodal agency, relating to International Telecommunication Union (ITU) and the Asia Pacific Telecommunity (APT) including preparations for participation in their meetings and conferences after coordinating and harmonizing the views at national level with various wireless users from Govt. Departments/Organisation and others.

4.4.5 Conduct of examinations for award of Certificate of Proficiency (COP) for Radio Officers/Pilots/Wireless Operators on board ships and aircrafts and for award of Amateur Stations Operators Certificates (ASOC).

4.4.6 Site clearance of wireless installations and effecting inter-departmental coordination through the apex body namely the Standing Advisory Committee on Radio Frequency Allocations. (SACFA)

4.4.7 Direction and Control of Wireless Monitoring Organisation, the field organization.

4.4.8 Satellite System Coordination:

International coordination of satellite systems is required to be undertaken as per the provisions of the International Radio Regulations (RR) of the International Telecommunications Union (ITU). Coordination of frequency assignments for the individual satellite networks is necessary with satellite networks of other administrations for mutual coexistence and interference free operations of these networks.

Detailed Technical analysis for ensuring electromagnetic compatibility was undertaken in respect of the Administrations as per following details:

- Indian views on coordination of EMARSAT-4S satellite network of UAE with INSAT-2E (93.5E) in the extended C band has been examined and were sent to Administration of UAE and ITU
- Indian views on coordination of PAKSAT-1 (38E) satellite network of Pakistan with INSAT satellite networks at 48 E has been examined and were sent to Administration of Pakistan through diplomatic channels and ITU

4.4.9 Coordination meeting

Bilateral inter-system satellite coordination meetings with Administration of Belarus were held at Bangalore during 1-5 November 2004 and large numbers of Indian Satellite networks were coordinated with the satellite networks of Belarus.

4.4.10 Coordination with ITU

Information regarding notifications of INSAT-2 T and INSAT-2M series of satellite networks were sent to ITU for publication in relevant section.

The detailed coordination request in respect of INSAT-NAV (34E), INSAT-NAV (83E) INSAT-NAV (132E) and INSAT-NAV (GS) have been submitted to ITU for publication in relevant section of International Frequency Information Circular (BRIFIC).

Technical information for Consultation meeting of ITU-R Resolution 609 for Indian Radio Navigation Satellite System (IRNSS) was posted in ITU.

4.4.11 Protection of Indian space, Terrestrial and Radio Astronomy Services from the Satellite Networks of other countries.

i) With a view to protecting our frequency assignments and satellite orbital position for interference free operation of Indian satellite networks, detailed examination of Special Sections of weekly circulars published by the ITU have been undertaken on a continuous basis. Space Circulars received from Radio communication Bureau (BR) have been examined and objections have been sent to Administrations of Indonesia, UAE, Turkey, Malaysia, China, France, Australia, Japan, Singapore, Russia, Holland, Thailand, KSA, Pakistan and USA, requesting for detailed coordination with a view to protecting Indian Satellite and terrestrial networks.

ii) Following Indian satellite networks were published in the special sections of International Frequency Information Circular (BRIFIC):

a) Frequency notifications for INSAT-EK and INSAT-EK-R series of satellite networks at 48E, 55E 74E, 83E, and 93.5E
b) Frequency notifications for INSAT-2E (83E), INSAT-2M (48E), INSAT-2M (74E) and INSAT-2T (55)
c) Advance Publication Information (API) in respect of INSATKU-78 (78E), INSATKU-88 (88E), INSATKU-113.5 (113.5E), INSATKU-117.5 (117.5E), INSATKU-123.5(123.5E) and INSATKU-126 (126E)
d) Detailed coordination request in respect of INSAT-2(83E)

4.4.12 Frequency assignment to satellite based services

Frequency assignments for public/captive satellite communication network including that of VSAT networks and for other satellite applications have been made to various service providers/users/departments. Frequency assignments have also been made to several broadcasters/teleport owners for operation of satellite TV channels and up linking earth stations.

4.4.13 Review of National Frequency Allocation Plan (NFAP) – 2002.

The current policy document in spectrum viz. the NFAP-2002 has already been placed on WPC website. Based on the Comments received from various agencies on the above, revised Draft NFAP has been prepared & placed on WPC website. The revised NFAP would take care of the requirements of various telecom operators and other wireless users.

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4.4.14 Automation of Spectrum Management & augmentation Monitoring System.

A project named 'Design, Supply, Installation & Commissioning of "National Radio Spectrum Management & Monitoring System (NRSMMS)" is being implemented with assistance of the World Bank. Under the project, spectrum management and monitoring functions are being automated with a view to making these activities effective and efficient.

During the above period of the current financial year, the ASMS (Automation of Spectrum Management & augmentation Monitoring System) at Sanchar Bhawan have been made operational. Out of 14 stations with antenna towers, erection work for installation of monitoring antennae has been completed at 12 sites. Anomalies reported, are being rectified by the contractors. Two V/UHF MMS vehicle have been sent one each to Chennai and Ajmer after complete testing. The Acceptance testing for remaining 19 V/UHF MMS vehicles and other fixed tower sites is under progress.

4.4.15. Automation of Spectrum Management & Augmentation Monitoring System:

a) The project 'Design, Supply, Installation & Commissioning of "National Radio Spectrum Management & Monitoring System (NRSMMS)" is being implemented. Under the project, spectrum management and monitoring functions will be automated with a view to making these activities effective and efficient.

b) During current first two quarter of current financial year, the customization works related to ASMS at Sanchar Bhawan have been almost completed and the system is in operation. SACFA applications are now being received through web server and are being examined in ASMS server. Out of 14 tower sites, tower erection work for installation of monitoring antennae has been completed at 12 sites. Acceptance testing for V/UHF MMS vehicles and fixed sites are under progress.

c) The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "O".

4.5 Wireless Monitoring Organisation

Wireless Monitoring Stations in the organisation continue to monitor the entire radio frequency spectrum for:-

a. The assessment of degree of interference, if any, experienced by any licensed/authorized stations and to take remedial action to eliminate the interference.

b. Adherence to all technical parameters and other conditions as stipulated in the licenses/authorization by licensed/authorized operations;

c. Scanning of Radio Frequency Spectrum to locate the unauthorized/unlicensed operations and to take remedial measures/actions.

d. Microwave Monitoring Terminal carry out various assignments concerning interference clearances, selection of interference free and mutually compatible sites for LOS Microwave Links, Radar, and Monitoring data collection. It has successfully removed all interference problems reported by various Govt. /Non-Govt. Wireless users on microwave bands.

e. At few Monitoring Stations where fixed/mobile direction finding systems are available, these are being used for locating the direction as well as location of the transmitting stations, as required.

f. Three newly procured VHF/UHF DF systems at International Wireless Monitoring Stations (I.W.M.S.) Delhi, Chennai & Mumbai are operational.

g. Satellite Monitoring Earth Station at Jalna (Maharashtra) is continuing the monitoring of signals from various satellites located in the GSO arc of Indian interest.

h. W.M.O is undergoing major modernization of Radio Spectrum Monitoring capabilities through World Bank assisted Telecom Reform Project. The following activities have also been completed:-

i. Antenna Towers have been erected measuring around thirty meters in height for better reception of Radio signal to be used for the sophisticated receiving systems coming under the project at Ajmer, Delhi, Chennai, Nagpur, Mumbai, Shillong and Trivendurm. Installation procedure is processing at Ahmedabad, Jallandhar, Goa, Gorakhpur and Bhopal Wireless Monitoring Stations.

j. The installation of the LAN (Local Area Network) comprising of thirty workstations has been completed at Wireless Monitoring Organisation Head quarters (MHQ). Pushpa Bhawan, New Delhi. The 2 MBPS leased line between Sanchar Bhawan and MHQ has been commissioned. LAN wiring etc. has been completed at several Wireless Monitoring Stn's spread all across India.

k. The various sophisticated electronic hardware/software and computer systems have been installed at various Wireless Monitoring Stations. These are expected to be integrated with the national system (National Radio Spectrum Management & Monitoring Systems) shortly.

l. Under the project, twenty one numbers of Mobile Wireless Monitoring Stations/Vehicles are being procured.. Acceptance testing for two vehicles has been completed & vehicles sent to Wireless Monitoring Stations Chennai & Ajmer. The remaining vehicles are under final acceptance testing.

The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "P".

4.6 Universal Service Obligation Fund:

4.6.1 The New Telecom Policy '99 (NTP'99) envisaged provision of access to basic telecom services to all at affordable and reasonable prices. The resources for meeting the Universal Service Obligation (USO) are to be generated through a Universal Service Levy (USL), which would be a percentage of the revenue earned by the operators under various licenses.

4.6.2 In keeping with NTP'99, the recommendations of TRAI on the issues relating to the Universal Service Obligation were sought. Based on the decisions taken on the recommendations, the Universal Service Support Policy was framed. The Universal Service Support Policy came into effect from 1.4.2002. The Universal Service Levy

presently is 5% of the Adjusted Gross Revenue earned by all the operators except pure value added service providers like internet service providers, voice mail, e-mail etc

4.6.3 The **Indian Telegraph (Amendment) Act, 2003** giving statutory status to the Universal Service Obligation Fund (USOF) was passed by both Houses of Parliament in December 2003. Deemed to have come into force from 1st April, 2002, the Fund is to be utilized exclusively for meeting the Universal service Obligation and the balance to the credit of the Fund will not lapse at the end of the financial year. Credits to the Fund shall be through Parliamentary approvals. The **Rules** for administration of the Fund have also been notified on 26.3.2004.

4.6.4 *India USOF in the Global Context:

The USOF of India is **one of the few operational** USO funds in the world. In contrast to the existence of over 100 operational national Regulatory Authorities in the world, there are probably a dozen or fewer USO funds with an administrative set-up. Amongst these too, India is one of the few countries where disbursement from USOF has actually started.

The USOF of India has **one of the more comprehensive** mandates of operational USO funds. It covers not only existing and new shared access facilities in rural areas, but also existing and new eligible individual household DELs. The USO funds support not only operational expenses for existing facilities, but also cover both capital costs and operational expenses for the new facilities.

The USOF of India is **one of the largest** operational USO funds in the world, next only to USA Federal USO fund.

(Source ITU Project Report (2004) on Implementation of the Universal Service Support Policy in India)*

4.6.5 Scope of Support from USOF:

The scope of the USOF covers rural and remote areas with Public access telephone and individual household telephones in Net High Cost rural and remote areas. It also endeavors to implement universal public access broadband through installation of High Speed Public Tele-Information Centres (HPTICs) in villages with population more than 2000 at Block headquarters. Accordingly, it is planned to take up installation of 5000 HPTICs in the first phase. Data applications including fax, email, tele-education & tele-medicine besides voice telephony will be covered through these Tele-Information Centres.

The Policy also provides for provision of Village Public Telephones in all 6.07 lakh Census revenue villages and provision of additional Rural Community Phones (RCPs) in nearly 46,000 villages with population more than 2000. Replacement of village public telephone on Multi Access Radio Relay Technology installed prior to 1.4.2002 is also covered under the scope of the USOF. The total number of such phones to be replaced is 1.86 lakh.

4.6.6 IMPLEMENTATION STATUS:

A. Activities Covered

- Ø Nearly 5.20 lakh Village Public Telephones (VPTs) are already receiving support towards Operation and Maintenance covering more than 90% of the villages with VPTs.

- Ø For the remaining uncovered eligible 66,822 villages including 14,185 remote and far flung villages which can be covered only on Satellite phone. Agreements have been signed with M/s BSNL who emerged as the successful bidder in the tender for which M/s BSNL and M/s Bharati had participated. Insurgency prone villages and those with population less than 100 are not to be covered as per present Policy. Support will be extended towards both Capital as well as Operational expenses for a period of five years from the date of installation of the VPTs. These villages will be covered by 2007 in a phased manner. So far VPTs have been provided in 11,660 uncovered villages.

- Ø Support is also being extended for replacement of 1.86 lakh Multi-Access Radio Relay (MARR) technology VPTs, 1,22,332 of which have already been replaced.

- Ø Agreements have also been signed with M/s BSNL and M/s Reliance Infocomm Ltd. on 30-09-2004 for installation of Rural Community Phones (RCPs) in 46,253 villages with population more than 2000. These are the second Public Telephones which will be provided in a phased manner by 2007. 11,682 RCPs have been provided so far.

B. Individual Access

- Ø Support has been extended to nearly 91 lakh Rural household Direct Exchange Lines (RDELs) installed prior to 1.4.2002 towards the differential between the TRAI prescribed rental and the rental charged by the Service Provider. The support is for the limited period of 1.4.2002 to 31.1.2004.

- Ø Agreements were signed in March 2005, for providing new Rural household DELs in the identified 1685 net cost positive Short Distance Charging Areas (SDCAs) with BSNL (1267 SDCAs), Reliance Infocomm Ltd (203 SDCAs), Tata Teleservices (172 SDCAs) and Tata Teleservices, Maharashtra (43 SDCAs).

- Ø Subsidy at the rates wil also apply to the RDELs in the 1685 SDCAs that have been installed between 1.4.2002 to 31.3.2005, agreements for which have already been signed with M/s BSNL and M/s RIL.

C. Activities on hand:

- Ø For the data access facilities viz. Tele Information Centres, initially a pilot project covering 2000 villages with High Speed Tele-Information Center (HPTICs) is under consideration.

- Ø Grant of Subsidy support from USOF towards shareable passive Infrastructure for Cellular Mobile Services in Rural/Remote areas is under examination.

4.6.7 DISBURSEMENTS MADE TOWARDS USO AND AVAILABILITY OF FUNDS:

- Ø The entire budgetary provision of Rs.1814.585 crores allocated for the financial year 2002-03, 2003-04 and 2004-05 was fully utilized.

- Ø A sum of Rs.1750 crores has been allocated for the FY 2005-06, out of which Rs.610 crores have already been disbursed. Subsidy claims for Rs.1225 crores have been received and are being processed. Claims for remaining two quarters would have been received during October 2005 and January 2006. The matter is being taken up with Ministry of Finance for allotment of additional fund of Rs.1160 crores in RE 2005-06.

- Ø In so far as availability of funds is concerned, sufficient funds have been collected by way of contribution from Service Providers towards USO from 1.4.2002. The funds asked for have been kept within the amount accumulated over this period.
- Ø The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "Q".

4.7 PUBLIC SECTOR UNDERTAKINGS

4.7.1 BHARAT SANCHAR NIGAM LIMITED

This paragraph gives a review of overall performance of the Bharat Sanchar Nigam Limited detailing the targets and achievements during 2006-07 in terms of broad physical dimensions and financial outlays.

A) **Targets**: - The physical targets for the year 2006-07 (RE) are as follows:

S.No.	Parameter	Target
1	Direct Exchange Lines (Lakh lines)	100
2	Village Panchayat Telephones	20,000
3	Trunk Automatic Exchange (K lines)	1,200
4	Optical Fibre Cables (RKMs)	24,000

- Ø With the addition of 20,000 VPTs during this year the number of VPTs shall increase to 5,55,134 by the end of March 2007.
- Ø The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - 'R'.
- Ø In accordance with the objective of 10^{th} Plan of introducing advanced technologies and new services in the field of telecommunication, BSNL has introduced Broadband equipment in its network & had provided 8 lakh broadband connections.

B) SPECIAL COMPONENT PLANS

Annual Plan of 2007-08 (BE) and Revised Plan 2006-07 (RE) inter-alia also focus on accelerated growth and early implementation of telecom facilities in the following areas.

a) North East Region
b) Tribal Areas
c) National Capital Region

The Special Plans with the parameters are as follows –

Ø NE Region Component Plan and Tribal Sub-Plan

NE Region being border area is treated as a special focus area. As part of this focus, it is targeted to provide 3.49 lakh lines of switching capacity and 3.93 lakh of Direct Exchange Lines in NE region during 2006-07. It is also proposed to have 1000 RKMs of OFC system and 8 nos. of Satellite stations.

During 2007-08, it is planned to provide net switching capacity of 3.5 lakh with 2.0 lakh of DELs in NE region. Transmission network is also planned to be expanded by providing 1000 RKMs of OFC and 40 Killo Circuits of TAX equipment.

Tribal areas in the country are also being treated as special focus area. The main objectives of the Tribal Sub-Plan are

a) To provide public telephone in all tribal villages.
b) To provide telephone facility on demand in tribal areas

The Tribal Sub-Plan 2006-07 envisages provision of 2.0 lakh lines of switching capacity, 4.0 lakh of DELs and 1,000 RKMs of OFC system along with 4000 nos. of VPTs in tribal Areas.

During 2007-08, it is planned to provide 3.0 lakh of switching capacity and 3 lakh of DELs. It is also proposed to provide 800 RKMs of OFC and 50 Killo Circuits of TAX equipment.

National Capital Region (Excluding Delhi)

Ø All efforts are being made to improve the telecom facilities in NCR besides introduction of various Value Added Services to make it at par in telecom facilities with National Capital of Delhi. BSNL aims to make the Telephone on Demand in its area of operation under NCR.

D. The financial outlay in respect of BSNL are given below:

(All figures are in Crore of Rs.)

	Year	Outlay
BE	2006-07	16,931
RE	2006-07	15,349
BE	2007-08	22,881

4.7.2 MAHANAGAR TELEPHONE NIGAM LIMITED

ACHIEVEMENTS: 2005-06

Company has valiantly fought competition and it retained its leadership in the Telecom services in the cities of Delhi and Mumbai. Sustained efforts have been made by Company to maintain high standards of operational parameters such as fault rate, STD and local call completion rate. There has been marked improvement in fault rate and call completion rate both in Delhi and Mumbai units of the Company.

Company has been devoting substantial resources in building a skilled workforce that has an innate capability to counter threats posed by ever changing business environment and to take advantages of the opportunities presented to serve ever increasing customer base. Considering the need of hour, Company has taken steps to right size the organization so as to have a lean organization and as a first step, company has implemented Voluntary Retirement Scheme to its non-executives & Group-B Officers.

Despite stiff competition from other operators, Company achieved a financial turnover of Rs. 6090.99 crores during the year under review, as compared to the previous year's turnover of Rs. 6073.79 crores.

The Company's net worth increased to Rs. 11236.77 crores registering an increase of 2.68 %, over the previous year's net worth of Rs. 10943.83 crores. There was downward revision of ILD and NLD tariff changes introduced during the year. The profit before tax was Rs. 671.36 crores as against Rs. 1215.67 crores in the previous year, despite the fact that there was downward revision of access deficit charges based on regulatory changes introduced during he year. The net profit of the company was Rs. 580.29 crores for the financial year as against Rs. 938.98 crores for the previous financial year.

PLAN TARGETS/ACHIEVEMENTS: 2006-07

IN 2006-07, Company is likely to earn revenue of Rs. 5494.79 crores. After meeting the working expenses (including payments for network charges and license fees), Depreciation, Interest, Corporate Tax and Dividend, Company would yield a net surplus of Rs. 191.83 crores, which together with other internal resources would meet the planned expenditure.

Company has recognized that IT is the key to future business success. It has been implemented as the backbone for running customer friendly services such as Customer

Services Management System (CSMS), Fault Repair Service, Directory Enquiry, Financial Management System and Interactive Voice Response System etc. A number of web-based solutions have been incorporated to enhance customer care. Company has also started the business of Certifying Agency.

Having achieved the telephone on demand situation in both the cities, the main trust of Company in 2006-07 will be customer satisfaction and introduction of new services/schemes for customers benefit. Action will be taken to generate fresh demands by innovative marketing strategies and better customer care. Few steps/new services are proposed as follows:-

- Ø MTNL will expand its cellular mobile services (Both GSM & CDMA) in Delhi and Mumbai. MTNL has planned to add 20 lakh net switching capacity. MTNL will setup IP/MPLS based Broad Band backbone network in Delhi and Mumbai.
- Ø MTNL will introduce new technology equipment such as Next generation Network (NGN) in the network.
- Ø MTNL will deploy additional broadband access equipment using broadband DLC/DSLAM. MTNL targets to deploy 5 lakh additional broadband ports.
- Ø MTNL plans to provide triple play services (High Speed Internet, Broad Cast TV, Video) on copper using DSL.
- Ø MTNL will setup state of art convergent billing and CRM system for issuing single bill for all type of services offered by MTNL and to meet the concept of single window for all types of customer needs.
- Ø MTNL will setup ILD gateway system.
- Ø MTNL will introduce 3G mobile service subject to availability of spectrum for the same.
- Ø The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "S".

4.7.3 ITI LIMITED

A. The paid-up Share Capital of the Company as on 31.03.2005 is Rs.588 Crores, consisting of Rs.288 crores Equity Shares and Rs.300 Crores Cumulative Redeemable Preference Shares. Out of the equity shares 92.87% is held by Government of India and 0.11% by Government of Karnataka and 7.02% by financial institutions and others. The Preference Shares are held by M/s Mahanagar Telephone Nigam Limited and M/S. Bharat Sanchar Nigam Limited. Till 31.03.2005, the Government of India has disinvested 2,02,19,310 shares of Rs.10/- each including 9,81,310 shares of Rs.10/- each (face value) at the price of Rs.59/- to employees during 1994-95.

B. For the year 2005-06 as per MOU Level 2 the Company has targeted a production of Rs.3938 Crores (including excise duty) with a profit estimate of Rs.72 Crores. Taking into account the order availability as also expected orders the production target for RE 2005-06 and BE 2006-07 are Rs. 3938 Crores (incl. ED) and Rs.4261 Crores (incl. ED) respectively. The company has estimated a profit of Rs.72 crores for RE 2005-06 and a profit of Rs.110 crores for BE 2006-07. In the workings for RE 2005-06 and BE 2006-07 assistance for VRS as sanctioned to the company in the revival plan by the Government have been reckoned.

The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "T".

4.7.4 Telecommunication Consultants India Limited

In spite of various constraints Company has made efforts to expand its base in new countries, IT related projects and other diversified areas of operation like Road construction, Power line projects. The company has been awarded FTTH project in Kuwait, National Internet Backbone(NIB) project from BSNL, Establishment of vessel traffic monitoring system in the Gulf of Kuch. The company was awarded a contract for Pilot Project in Ethiopia for e-medicine and e-education worth US$ 2 million. Based on success of the Pilot project, the company will also be awarded work of US$ 117 million for 53 more African countries. The company is also in dialogue with MEA for e-education project in Asian countries.

PROFITABILITY OF PROJECTS :

Keeping in view the prospects for the year 2006-07 and various constraints discussed in the following paragraphs, the Profit for the year 2006-07 has been reduced to Rs. 1.69 crore. This is due to reduced margins in almost all the projects. In this year most of the projects in the high-tech areas (DGLL project of Gulf of Kuch, NIB project and GSM in KSA) and Rural Road projects are with reduced margins. Budgeted Profit for 2007-08 is estimated to Rs. 6.20 crore. Most of the projects in high tech areas have been obtained under stiff competition.

ORDER BOOKING 2006 –07

As against the target of Rs. 600 cr. during the year 2006-07, Company has secured orders worth Rs. 354.64 cr till Sept 2006. The major orders booked during the year are as under:

1. PAN Africa contract in 53 African countries valuing Rs. 228.46 crores (Out of total contract value of USD 117 Mn. (Rs.538.20 crs), part amount of Rs.309.74 crs was considered during the year 2005-06.)
2. GSM O&M contract in KSA valuing Rs. 17.87 crores
3. Supply, installation and testing of Optical Fiber Network Project in Kuwait valuing Rs. 3.25 crores
4. BOT Contract from PID for Gobindgarh – Nabha sector valuing Rs. 70.25 crores
5. Rural road projects valuing Rs. 27.00 crores
6. Contract for Kissan knowledge management center valuing Rs. 2.7 crores
7. Supply of secure voice & secure fax for Assam riffles valuing Rs. 1.52 crores
8. Supply & Installation of Networking project for Afghanistan Postal service valuing Rs.1.43 crs.
9.

IT RELATED PROJECTS

A major thrust was given in last three years on securing IT related projects keeping in view the huge potential in this sector. The IT Division has submitted tenders/ proposals for a total value of over Rs. 2787 crore in the last three years. The Division has secured contracts for a value of Rs. 346 crore (approx.) which includes National Internet Backbone-II for BSNL, Lawful Interception Monitoring Project for Delhi Police. FTTH Project in Kuwait, Kisan Call Center and Kisan Knowledge Management System for Ministry of Agriculture, e-Governance in the State of Karnataka etc, The Division is likely to secure further projects in e-Governance, Campus Wide Networking etc.

INVESTMENT IN JOINT VENTURES:

A provision of Rs. 20.16 crore was kept for investment in joint ventures in the budget estimates for the year 2006-07. The provision was mainly for investment in Kenya, Oman and Nepal. On the basis of present status, it is proposed to revise it to Rs. 43.76 crore for the joint ventures for the year 2006-07 as the company has subscribed to Right Issue in Bharati Hexacom Limited worth Rs.37.50 crore and earmarked Rs.1.26 crore for investment in Oman JV. A provision of Rs. 20.42 crore. is proposed in the year 2007-08.

PROJECT EXPORTS

PERFORMANCE HIGHLIGHTS: 2005-2006

Project Exports during the year were Rs. 216.22 crores. Following projects were successfully completed:

a) Supply and installation of pay phones and sub –system management in Ghana worth Rs.3.87 Cr.
b) Architectural Consultancy to MPTC (Ministry of Posts, Telecommunications and IT) for construction of four Buildings (Incubator, telecommunications Complex, Cyber Post and CETRIC) at the Cyber Park at Algiers valuing Rs.3.67 crs
c) Second phase of the GSM Project in Bhutan valuing Rs.1.78 crs.
d) Minor Network expansion 2001 valuing Rs. 35.38 crs in Oman.
e) Supply and Service Contracts from United Nations valuing Rs.158 crs
f) GSM O & M Project in Saudi Arabia valuing over Rs.54.94 crs
g) Emergency Restoration of Telecommunication System in 11 provincial cities of Afghanistan valuing Rs. 48.10 crs.
h) Supply and installation of SDH/PDH Microwave network in Afghanistan valuing Rs. 8.94 Crores

In addition the Following inland projects were also successfully completed

a) GSM-R Project for Eastern Railway for Rs.14.46 crs
b) Road Construction Projects valuing Rs. 87 crs.
c) Installation and commissioning of Lawful Interception and Monitoring (LIM) system for Delhi police valuing Rs. 4.67 crs.

PRESENT COUNTRIES OF OPERATION

Company continues to operate in Kingdom of Saudi Arabia, Algeria, Afghanistan, Mauritius, Myanmar, Kuwait, Botswana, Ethiopia, Nepal, Oman, Bhutan, Ghana, Qatar and United Nations Projects.

PROJECTS IN PROGRESS

Following major projects are in progress : -

a) Contract for Copper Access Network – total value USD 60 Mn. (Rs.279 Crs) in Ghana. Due to financial constraints, the clients is not able to established LC and as such the work has come to a standstill.
b) Stringing of OPGW cable for a country wide back bone telecommunications network over forty no. 220 KV power transmission lines covering a total distance of about 3000 kms. throughout Algeria. Project is in 4 lots valuing Rs.96.92 crs.
c) MPT project for implementation of SDH/ STM 4 Optical Fiber link in Myanmar valuing Rs. 31.5 crs.
d) Construction of 60 KV and 220 KV power transmission lines in Algeria valuing Rs.29.91 crs.
e) Eastern Corridor Project of optical fibre cable plant and associated civil works in Botswana valuing Rs.6.61 crs.
f) PAN Africa e Medicine and e Education pilot project valuing Rs. 8.76 crs.
g) Network Maintenance contract in Kuwait valuing Rs. 57.5 crs.
h) Construction of Towers, Shelters and associate Civil works in Bhutan valuing Rs. 4.40 crs.
i) Satellite O & M Project in Saudi Arabia valuing Rs.9.42 crs.
j) 450K OSP Projects in Saudi Arabia valuing Rs.9.81 crs.
k) GSM RSI Project in Saudi Arabia valuing Rs.1.76 crs.
l) GSM O&M project in KSA valuing Rs. 17.87 crs.
m) Minor Network Expansion 04 Project in Oman valuing Rs. 6.85 crs.
n) Supply, installation and maintenance of FTTH equipment and fibre optic cable in Kuwait valuing Rs. 78.64 crs.
o) New Subscriber Line Contract and Preventive Maintenance Contracts in Mauritius for Rs. 8.56 crs and Rs. 4.88 crs. respectively
p) PDH MW Radio Relay System in Nepal valuing Rs. 7.84 crs.
q) Manpower supply project in Qatar valuing Rs. 7.32 crs
r) Jharnet and Modernisation of Jharkhand Police Communication System valuing Rs. 2.54 crs.
s) Road Construction Projects valuing Rs. 175 crs.
t) National Internet Backbone for BSNL for Rs.214.00 crs.
u) Establishment of vessel Traffic Services System in the Gulf of Kachchh for DGLL for Rs.117.42 crs.
v) Road construction project of NHAI valuing Rs. 166.72 crs.
w) BOT contract of Nabha – Gobindgarh sector valuing Rs. 70.25 crs
x) Supply and Installation of Networking project for Roorkee Army valuing Rs. 0.75 crs.

INVESTMENT IN JOINT VENTURES

As on 31.3.2006 Company has a total investment in joint venture companies as under :

		(Rs in crores)
Hexacom India Limited (a JV for operation of Cellular Services)	-	53.76
TCIL Bell South Limited	-	00.84
TSCL	-	00.67
ICSIL	-	00.36
Telecom Consultant Nigeria Ltd.	-	00.01
Tamil Nadu Telecom Ltd.	-	6.95
UTL Nepal	-	23.34

		85.93 crs.

PROPOSED PROVISION FOR EXISTING JOINT VENTURES :

UNITED TELECOM LTD., NEPAL

UTL, Nepal, has launched its WLL based services in Nepal. It has subsciber base of 70,000. TCIL's investment in the company is estimated at Rs. 32.5 crs. TCIL has already made an investment of Rs. 23.34 crs. The remaining investment of Rs. 9.16 crs. shall be made in the year 2007-08. As such, in Budget Estimates, a provision of Rs. 9.16 crs. has been proposed.

BHARTI HEXACOM LTD

I accordance with decision of Govt. of India TCIL has made an additional investment of Rs. 37.50 crores in Bharti Hexacom Ltd. by subscribing to its Right issue in 2006-07. The total Investment in this JV as on date stands to Rs. 91.26 crores

NEW JOINT VENTURE

(i) **JV in Oman :**

Company has been executing projects in Oman since 1986. As per local law requirement now, a JV company is required to be incorporated to take up the local business there. For participating in the equity of the JV, a

provision of Rs. 1.26 cr. has been made each in the year 2006-07 and 2007-08.

(ii) **New JVs for acquiring Equity in Telecom Administrations abroad**
Company has plans to bid for telecom business, accordingly provision for RS.5 crs in 2006-07 and Rs.10 crs in 2007-08 has been proposed.
Provision for JV and Branch Investments in brief are as under :

(Rs. in crs.)

	RBE 2006-07	BE 2007-08
Bharti Hexacom Ltd	37.50	-
New JVs	5.00	10.00
UTL Nepal	-	9.16
JV in Oman	1.26	1.26
Total	43.76	20.42

ANNEXURE-K

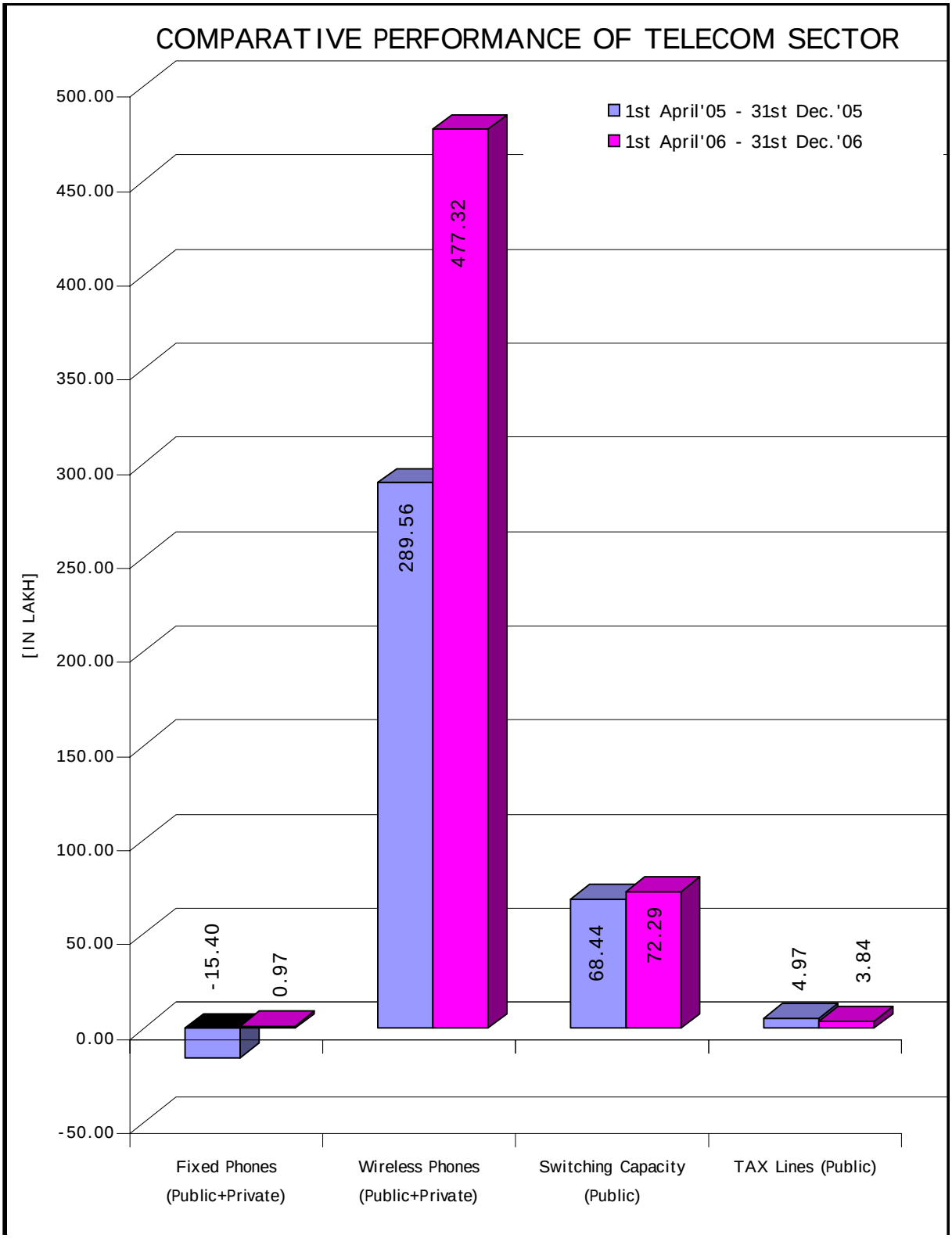
Relative performance in-Dec.'06

S.No.	Description		Position at the End of		Absolute Change (4-3)	Position at the End of		Absolute Change (7-6)
			Nov.'05	Dec.'05		Nov.'06	Dec.'06	
1	2		3	4	5	6	7	8
1	Fixed Phones (In Lakh)	Public	390.67	389.58	-1.09	373.77	372.69	-1.08
		Private	9.02	9.26	0.24	29.67	30.54	0.87
		Total	399.69	398.84	-0.85	403.44	403.23	-0.21
2	Wireless Phones (GSM+CDMA*) (In Lakh)	Public	170.02	182.20	12.18	284.01	292.06	8.05
		Private	637.01	676.85	39.84	1147.11	1203.92	56.81
		Total	807.03	859.05	52.02	1431.12	1495.98	64.86
3	Total Telephones		1206.72	1257.89	51.17	1834.56	1899.21	64.65
4	**Teledensity**		10.87%	11.32%	-	16.28%	16.83%	-
5	Switching Capacity (In Lakh)	Public	722.53	735.83	13.30	857.47	864.43	6.96
6	Waiting List - Fixed Phones [In Lakh]	Public	16.35	15.75	-0.60	9.97	9.29	-0.68
7	Village Public Telephones [VPTs] **		537913	539572	1659	555868	557043	1175
8	PCOs (In Lakh)	Public	22.96	23.12	0.16	23.57	23.54	-0.03
9	OFC Route kms	Public	478678	479746	1068	507526	509175	1649
10	TAX Lines (In Lakh)	Public	65.25	66.36	1.11	72.86	73.37	0.51
11	Rural Phones (Fixed+CDMA)	Public	14056365	14177135	120770	14793059	14848352	55293

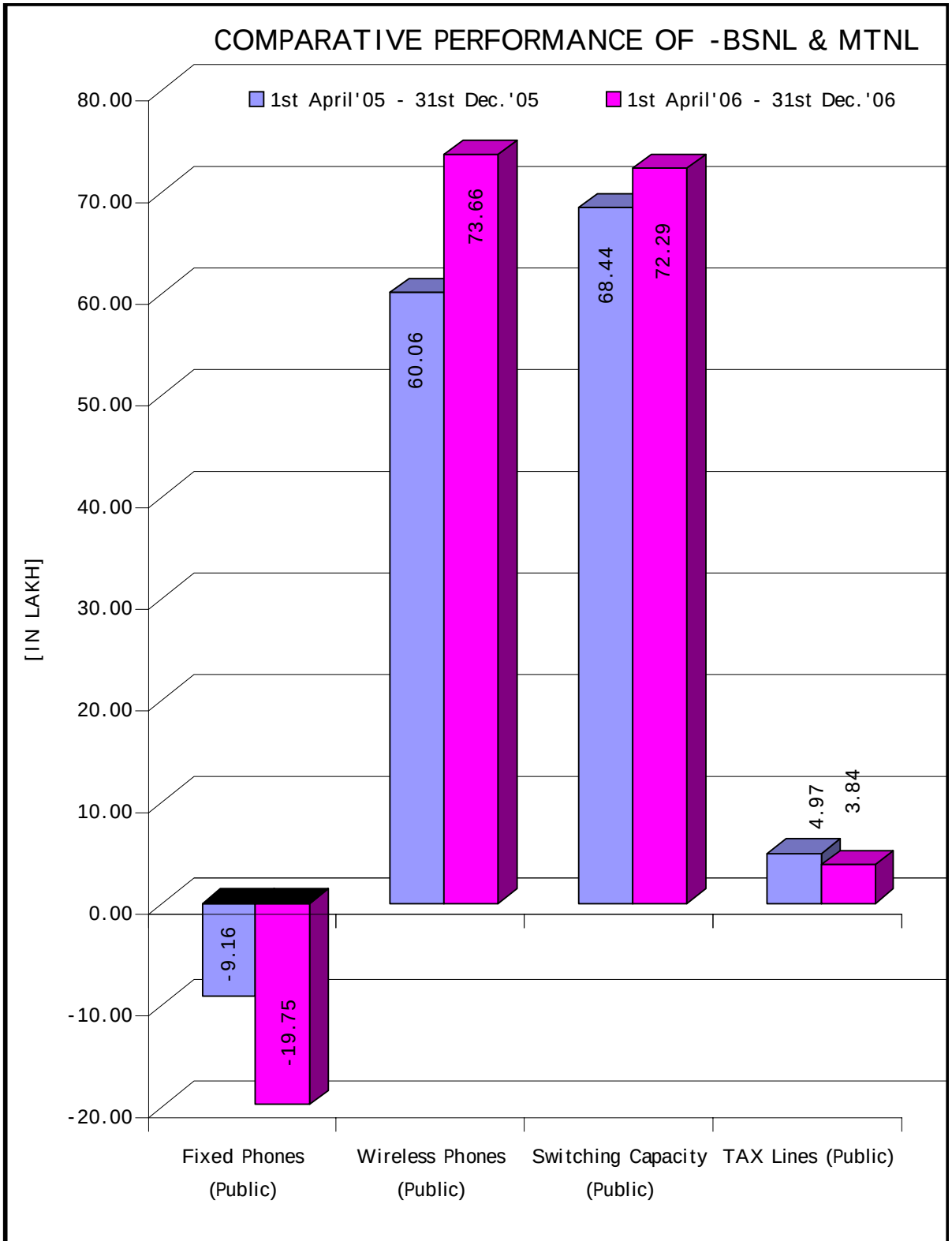
Relative performance during Mar.'05-Dec.'06

S.No.	Description		Position at the End of		Absolute Change (4-3)	Position at the End of		Absolute Change (7-6)
			Mar.'05	Dec.'05		Mar.'06	Dec.'06	
1	2		3	4	5	6	7	8
1	Fixed Phones (In Lakh)	Public	398.74	389.58	-9.16	392.44	372.69	-19.75
		Private	15.50	9.26	-6.24	9.82	30.54	20.72
		Total	414.24	398.84	-15.40	402.26	403.23	0.97
2	Wireless Phones (GSM+CDMA*) (In Lakh)	Public	122.14	182.20	60.06	218.40	292.06	73.66
		Private	447.35	676.85	229.50	800.26	1203.92	403.66
		Total	569.49	859.05	289.56	1018.66	1495.98	477.32
3	Total Telephones		983.73	1257.89	274.16	1420.92	1899.21	478.29
4	**Teledensity**		8.95%	11.32%	-	12.74%	16.83%	-
5	Switching Capacity (In Lakh)	Public	667.39	735.83	68.44	792.14	864.43	72.29
6	Waiting List - Fixed Phones [In Lakh]	Public	16.21	15.75	-0.46	12.19	9.29	-2.90
7	Village Public Telephones [VPTs] **		530778	539572	8794	547111	557043	9932
8	PCOs (In Lakh)	Public	21.51	23.12	1.61	23.84	23.54	-0.30

ANNEXURE-L


COMPARATIVE PERFORMANCE OF TELECOM SECTOR
1st April'05 - 31st Dec.'05
1st April'06 - 31st Dec.'06
[IN LAKH]
500.00
450.00
400.00
350.00
300.00
250.00
200.00
150.00
100.00
50.00
0.00
-50.00
-15.40
0.97
289.56
477.32
68.44
72.29
4.97
3.84
Fixed Phones (Public+Private)
Wireless Phones (Public+Private)
Switching Capacity (Public)
TAX Lines (Public)

ANNEXURE-M


COMPARATIVE PERFORMANCE OF -BSNL & MTNL
1st April'05 - 31st Dec.'05
1st April'06 - 31st Dec.'06
[IN LAKH]
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
-10.00
-20.00
-9.16
-19.75
60.06
73.66
68.44
72.29
4.97
3.84
Fixed Phones (Public)
Wireless Phones (Public)
Switching Capacity (Public)
TAX Lines (Public)

Annexure – N

TELECOM ENGINEERING CENTRE [TEC]

Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
1	Office Modernization	0.63	TEC LAN Upgradation	1. Preparation of specification. 2. Revision of Budget. 3. Floating of tender. 4. Opening of tender. 5. Evaluation of tender under process. 6. Only one bid received. 7. Case processed for Re-tendering. 8. Bid under technical evaluation.	
2	Research & Development	0.01	Study Performance such as data rate, QoS,Range, Coverage of CDMA 2000 1x	1. Preparation of tender document. 2. Floating of tender. 3. Opening of tender. 4. Only one bid received. 5. Re-tendering. 6. Tender opened on 27.3.06. 7. P.O. issued to Trimula Seven Hills (P) Ltd.	

TEC (contd…)

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
		0.36	Up gradation on NGN Test Bed	1. Manufacturer forum has been conducted for revision of specification. 2. Specification could not be finalized due to non availability of enough project component in the market. 3. Tender document has been prepared and case under process for NIT.	
		0.00	Procurement of structural analysis system for tower	Projected closed.	
	Research & Development	0.04	Wi-Fi Hotspot	1. Tender document prepared. 2. Tender document floated. 3. Technical evaluation completed. 4. Financial evaluation completed. 5. P.O. issued to M/s Artek, Enterprises Delhi. 6. Part shipment received.	
	Research & Development		Procurement of Protocol Analyser	-	
		1.04			

[Contd…Annexure – N

TELECOM ENGINEERING CENTRE [TEC]
Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/ Project	Objective	Outlay	Outcome till 31-12-06	Remarks
1	Up gradation of TEC Intranet	The speed of existing intranet shall increase and also the access. Mail Server shall be provided to improve mail access.	0.07	0.00	(i) Revision of Specification – completed. (ii) Revision of Budget – completed. (iii) Floating of Tender for Part-I (S/W) & Part II (Installation) – completed. (iv) Placement of Order for Part-III (H/W) on DGS&D – Equipment received, DGS&D Bill awaited. (v) Opening of tender for Part-I – completed. (vi) Opening of tender for Part-II – completed. (vii) Evaluation of Tender for Part-I – Tender evaluation under process. (viii) Evaluation of Tender for Part-II – Tender evaluation under process. (ix) P.O. for Part-I. (x) P.O. for Part-II. (xi) Installation of Equipment.
2	Procurement of PCs, Laptop for Office automation	Procurement of PCs, Laptop for Office use	0.17	0.00	Order on DGS&D for (i) PC – completed. (ii) Laptop Installation of – completed. (iii) PCs – completed (iv) Laptop Computers – Expected by 1st week of February, 2007.

TELECOM ENGINEERING CENTRE [TEC]
Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/ Project	Objective	Outlay	Outcome till 31-12-06	Remarks
3	VoIP Test Bed	The lab set up shall help in interoperability testing of NGN products	0.05	0.00	(i) Revision of Specification – completed. (ii) Floating of tender – completed. (iii) Opening of tender – completed. (iv) Evaluation of Tender – Tender evaluation under process. (v) Placement of P.O. (vi) Installation of Equipment.
4	Procurement of testing tools and accessories for CDMA	Procurement of accessories for conducting tests and training of staff	0.71	0.02	(i) Placement of Order for Part-I (CDMA Cards) – completed. (ii) Placement of order for Part-II (Computers) on DGS&D – completed. (iii) Floating of tender for Part-III (Tester) – completed. (iv) Opening of tender for Part-III – completed. (v) Evaluation of tender for Part-III – Tender evaluation under process. (vi) Placement of order for Part-III . (vii) Placement of order for Part-IV (Veghicle) on DGS&D – P.O. will be placed after P.O. for Part-III. (viii) Installation of equipment.
5	WiFi Hotspot	To carry out studies on radio interface of WiFi	0.00	0.03	Procurement of equipment and installation – installation completed. Equipment under field trial.
6	Ipv6 Test Lab	To carry out testing and certification of Ipv6 complaint equipment	0.00	0.00	(i) Preparation of EOI – completed. (ii) Floating of invitation of EOI – completed. (iii) Opening of EOI – completed. (iv) Evaluation of Tender – In progress. (v) Installation of equipment by bidders for short listing for Proof of Concept.
	Total		**1.00**	**0.05**	

Annexure – O

WIRELESS PLANNING CO-ORDINATION [WPC]

Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
1	National Spectrum Management and Monitoring System (NRSMMS)	9.24	1. Supply of 21 V/UHF MMS vehicles 2. Supply of 20 SHF MMS vehicles 3. Completion of 21 fixed monitoring sites 4. Completion of fixed SHF/Sat. monitoring facility (01 no.) 5. Completion of training under contract.	Under implementation	

[Contd…Annexure – O

WIRELESS PLANNING CO-ORDINATION [WPC]

Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/Project	Physical Target	Outlay 2006-07	Outcome till 31-12-06	Remarks
1	National Spectrum Management and monitoring System (NRSMMS)	1. Supply of 21 V/UHF MMS vehicles 2. Completion of 21 fixed monitoring sites	6.00	3.25	1.1. Installation work at 04 sites namely Sanchar Bhawan, Pushpa Bhawan and Jammu has been completed and completion certificate for these sites have also been issued. The Acceptance Test for hardware facility for remaining non-tower sites has also been completed. Anomalies reported, are being rectified by the contractors. The Acceptance Test for the facilities installed at antenna tower sites is in progress. 2. ASMS system at Sanchar Bhawan is operational. 3. Acceptance test for V/UHF MMS on 20 Nos. of vehicles have been completed. Two vehicles have been delivered at their respective sites namely Chennai & Ajmer.

Annexure – P

WIRELESS MONITORING ORGANISATION [WMO]

Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
1	Augmentation of DF Systems	0.10	Works Sanctioned	Work sanctioned to CPWD	
2	Science & Technology Unit	0.35	-	Scheme awaiting Sanction	
3	Strengthening of VHF/UHF Spectrum Analysis capabilities	3.00	-	Scheme under approval	
4	Regional Maintenance Centre	2.00	-	Scheme under approval	
5	Upgradation of Training Centre	0.05	-	Scheme under approval	
6	Modernisation of Wireless Monitoring H.Q at Pushpa Bhawan	0.50	-	Scheme under approval	
7	Management of Information systems	0.50	-	Schemes under approval	
8	Civil Works	12.27	Various civil works are under process including acquisition of land	Work still to be executed by CPWD	Work still to be executed by CPWD
	Total	**18.77**			

Annexure - Q

UNIVERSAL SERVICE OBLIGATION FUND
OUTCOME BUDGET ACTUAL FOR 2005-06 AND 2006-07(UP TO DECEMBER 2006)

Sl. No.	Name of the Activity	Financial Year 2005-06		Annual Targets 2006-07		Quarter 1		Quarter 2		Quarter 3		Quarter 4		Remarks
		Actual Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Actual Financial Outlays (Rs. in crores)	Physical Outcome	Actua Financial Outlays (Rs. in crores)	Physical Outcome	Actual Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	
1	O & M for existing VPTs (in lakhs)	83.39		101.71	3.50	8.91	3.45	26.65	3.36	12.37	3.33	53.78	3.30	Subsidy for Operation & Maintenance of Existing VPTs
2	Replacement of MARR VPTs (in lakhs)	108.17	1.04	90.42	1.80	10.57	1.49	41.89	1.60	23.89	1.67	14.07	1.76	Replacement of remaining MARR VPTs and already replaced after 1.4.2002
3	Provisioning of RCPs (Nos. in '000s)	31.89	25.3	57.61	42.00	3.12	29.00	5.19	32.00	13.72	35.20	35.58	38.00	Equated subsidy for already installed RCPs and front loaded & equated subsidy for new installations
4	Provisioning of VPTs in Uncovered villages (Nos. in '000s)	29.86	24.6	56.89	56.00	5.01	27.50	9.04	31.60	13.76	38.79	29.08	44.00	Equated subsidy for already installed VPTs and front loaded & equated subsidy for new installations

Contd…]

Sl. No.	Name of the Activity	Financial Year 2005-06		Annual Targets 2006-07		Quarter 1		Quarter 2		Quarter 3		Quarter 4		Remarks
		Actual Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	Actual Financial Outlays (Rs. in crores)	Physical Outcome	Actua Financial Outlays (Rs. in crores)	Physical Outcome	Actual Financial Outlays (Rs. in crores)	Physical Outcome	Financial Outlays (Rs. in crores)	Physical Outcome	
5	Rural Household DELs installed from 1.4.02 to 31.3.05	1393.44	18.65	370.13	18.65	52.42	18.65	117.61	18.65	47.87	18.65	152.23	18.65	Equated subsidy for already installed RDELs and front loaded & equated subsidy for new installations
6	Rural household DELs installed from 1.4.05 to 31.3.07	120.1	4.05	823.24	13.00	62.26	9.00	136.24	11.00	147.46	15.22	477.28	20.00	Equated subsidy for already installed RDELs and front loaded & equated subsidy for new installations
	Total	**1766.85**		**1500.00**		**142.29**		**336.62**		**259.07**		**762.02**		

Annexure – R

BHARAT SANCHAR NIGAM LIMITED [BSNL]
Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome (Achievement)	Remarks
1	DELs (Direct Exchange Lines)	15081	7,500,000	8,224,225	
2	Rural Phones		800,000	1,199,163	
3	VPTs (Village Public Telephones)			16,333	
4	RCP (Rural Community Phones)		5,800	10,489	
5	Replacement of MARR VPTs		72,601	39,044	
6	Broad band		450,000	552,467	
	Total	15081			

BHARAT SANCHAR NIGAM LIMITED [BSNL]
Performance for the year 2006-07 (up to 31st December 2006)

(Rs. in crores)

Sl. No.	Scheme/Project	Physical Target	Outlay 2006-07	Outcome till 31-12-06	Physical Achievement
1	DELs (Nos.)	100,00,000	16931.00	4228.00	5,018,308
2	Broadband (Nos.)	6,00,000			2,54,889
3	Internet (Nos.)*	8,00,000			4,85,215
4	VPT (Nos.)	20,000			9,932
5	OFC (RKMs)	24,000			17,866
6	TAX (KC)	1200			385
	Total		**16931.00**	**4228.00**	

*Physical outcome in respect of Internet is upto November, 2006 only.

Annexure – S

MAHANAGAR TELEPHONE NIGAM LIMITED [MTNL]

Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome (Achievement)	Remarks
1	Switching (including TAX/Tandem) and Access lines (including CDMA/WLL Handsets, GSM) in existing and new areas	1115	1000000	1041255	i) Additions of 1000K lines in net switching capacity including capacity for WLL & GSM
			48000	2520	ii) Addition of 48K lines of TAX/Tandem capacity
			18000	30072	iii) Additions of 18000 Fibre Kms
			380000	142093	iv) Broad band Capacity 380K
2	IT related services	49	Billing		i) Convergent Billing
					ii) Certifying Authority
					iii) Others
3	International Long Distance Operations	30	To start ILD operation		To start ILD operations
4	Expansion in New Service Areas Abroad and National acquisitions	25			Service in Overseas operations
	Total	**1219**			

[Contd…*Annexure – S*

MAHANAGAR TELEPHONE NIGAM LIMITED [MTNL]

Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/Project	Annual Physical Target	Outlay	Outcome till 31-12-06	Physical Achievement
1	New connections including WLL & Cellular connections(in nos)	10,00,000	0.00	0.00	3,73,358
2	Switching Capacity including capacity for WLL & GSM (in nos)	20,00,000	1599.00	354.64	6,55,385
3	TAX Tandem Capacity(in nos)	64,000	35.00	0.00	…
4	Deployment of DLC/DSLAM (Broadband)(no. of ports)	5,00,000	160.00	0.00	1,86,995
5	Optical Fibre Cable(fibre Kms)	18,000	87.00	0.00	29,197.8
6	IT related services including Convergent billing Certifying Authority, data warehousing & International Bandwidth		250.00	94.59	
7	Building Projects		37.00	0.00	
8	Rehabilitation of existing Land Line Copper Network		50.00	0.00	
9	International Long Distance Operations		30.00	0.00	
10	Expansion in New Service Areas Abroad		50.00	0.00	
	Total		**2298.00**	**449.23**	

Annexure – T

ITI LIMITED

Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
1	GSM BTS – RAE BARELI PLANT	30.00	To setup the facilities to manufacture GSM-BTS for 3 million lines	Capital Goods – Received & Installed	
1a	GSM BTS – RAE BARELI PLANT	0.00	To setup the facilities to increase capacity to 6 Million lines		
2	GSM MANUFACTURING MANAKPUR PLANT	15.00	To increase the capacity to manufacture GSM-BTS for 3 million lines	Capital Goods – Received & Installed	
3	SIM CARD MODULE MANUFACTURING PALAKAD PLANT	10.00	Procurement of CG for taking up of SIM card Module manufacturing		
4	CONTRACT MANUFACTURING	4.00	Provision for Upgradation of infrastructure to take up Contact Manufacturing jobs		
5	PROJECTS TO BE IDENTIFIED	5.00	Provision for taking up new products depending upon market potential / Demands		
6	CDMA WLL PROJECT – BANGALORE PLANT	8.00	Procurement of CG, Training, ToT charges	Capital Goods Purchase	
7	BSNL/ITI VSATs – NS UNIT	8.50	Procurement of CG for setting up of Hub & VSAT Infrastructure	Capital Goods Purchase	

ITI LTD. [Contd..]

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
8	IP TAX – PALAKAD PLANT	8.00	Augmentation of CG for Assembly & Testing of IP TAX Modules / System		
9	SMART/SIM CARD – PALAKAD PLANT	4.50	Procurement of additional equipment & accessories to increase capacity to 10 million Nos.	Capital Goods Purchase	
10	ASCON PHASE III – NS Unit	3.00	Procurement of Tools/ Testers for Installation and Commissioning	Capital Goods Purchase	
11	IFWT – BANGALORE PLANT	2.00	Procurement of Test equipment		
12	SSTP – PALAKAD PLANT	2.00	Procurement of Test equipment		
13	OCB REPAIR CENTRE – PALAKAD PLANT	2.00	Procurement of CG to meet the AMC needs of OCB exchanges	Capital Goods Purchase	
14	UPGRADATION OF SMT LINE – NAINI PLANT	2.50	Upgradation of existing SMT assembly facilities to take up manufacture of Broadband equipment		
15	DLC SDH – NAINI PLANT	1.00	Procurement of CG for testing	Capital Goods Purchase	
16	NEW GENERATION STM-NAINI PLANT	1.00	Augmentation of test facilities		
17	RURAL NETWORK SOLUTION – NAINI PLANT	1.00	Procurement of requisite test equipment		

ITI LTD. [Contd..]

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
18	ANTENNA – RAE BARELI PLANT	1.00	Procurement of requisite assembly / test equipment for GSM / CDMA etc		
19	ADSL – NAINI PLANT	1.00	Procurement of requisite test equipment		
20	Power Distribution Automation/ TOWERS/shelters/Energy Saving Devises – RAE BARELI PLANT	1.00	Procurement of requisite Mechanical Assembly equipment/ Tester for Planned products	Capital Goods Purchase	
21	OCB CORE GROUP – NS Unit	0.50	To establish Technical support at 14 centres	Capital Goods Purchase	
22	R & D	3.00	Procurement of needbased Testers		
23	CONTINUING SCHEME – ALL PLANTS BASIS	6.00	Need based provision for repairs, replacements of Machinery/ Civil works/ Services etc	Capital Goods Purchase	
	Total	**120.00**			

[Contd…Annexure – T

ITI LIMITED

Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/Project	Annual Physical Target	Outlay	Outcome till 31-12-06	Physical Achievement
1	ADSL-DSLAM MFG NAINI PLANT	To setup the facilities to manufacture ADSL-DSLAM Eqpts and to procure test eqpts	150.00	Capital goods Purchase	Capital goods Purchase
2	GSM-BITS Manufacturing-MANKAPUR PLANT	Capital Goods to manufacture new design BTS racks	90.00		
3	SMPS	Capital Goods procurement	10.00	Capital goods Purchase	Capital goods Purchase
4	ASCON Phase-III	Procurement of requisite test equipment, installation tools	50.00		
5	CONTINUING SCHEME - ALL PLANTS BASIS	Need based provision for repairs, replacement of Machinery / Civil Works/ services etc.	100.00	Capital goods Purchase	Capital goods Purchase
6	R & D	Procurement of need based Testers	100.00		
	Total		**500.00**		

Note: The Company's Annual Plan Outlay of Rs.100 crore for the year 2006-07 with budgetary support of Rs.100 crore has not been agreed to by the Government. Due to serve financial crunch, company is not a position to generate its own resources to meet the Capital investments. As such, RE 2006-07 has been revised to Rs.5 crores while submitting the Plan proposals for Eleventh Five Year Plan (2007-12) and Annual Plan 2007-08 to the Ministry during December 2006.

CHAPTER – V

FINANCIAL REVIEW / OUTLAY

Financial review/requirement of the Programme/Schemes under Secretariat of the MOC, DOT (HQ), C-DOT, TEC, WPC, WMO, VTMs, USO, Contribution to International Telecommunications Union, Asia Pacific Telecomm unity, TRAI and Telecom. Dispute Settlement and Appellate Tribunal.

(Rs. in Crore)

	BE 2005-06			RE 2005-06			Actual 2005-06		
	Plan	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**
Budgetary Provision									
MH 3451-Secretariat Economic Services:									
(a) Secretariat (MOC)	0.00	4.43	4.43	0.00	5.10	5.10	0.00	5.12	5.12
(b) Directorate General Administration	0.00	46.62	46.62	0.00	80.81	80.81	0.00	68.70	68.70
(c) Administrator USO Fund	0.00	0.94	0.94	0.00	1.19	1.19	0.00	0.81	0.81
(d) C-DOT	82.00	0.00	82.00	78.82	0.00	78.82	75.12	0.00	75.12
(e) TEC	1.13	9.15	10.28	0.12	8.90	9.02	0.11	7.29	7.40
Total -MH 3451	**83.13**	**61.14**	**144.27**	**78.94**	**96.00**	**174.94**	**75.23**	**81.92**	**157.15**
MH 2071 – Pension									
Pension	**0.00**	**1200.00**	**1200.00**	**0.00**	**1240.00**	**1240.00**	**0.00**	**1305.30**	**1305.30**
MH 2852 - Industries									
(a) Interest Subsidy to ITI Ltd.	0.00	2.63	2.63	0.00	2.57	2.57	0.00	1.73	1.73
(b) Write off of Loans to ITI Ltd.	0.00	100.00	100.00	0.00	100.00	100.00	0.00	0.00	0.00
(c) Waiver of Penal Interest outstanding against ITI Ltd.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total -MH 2852	**0.00**	**102.63**	**102.63**	**0.00**	**102.57**	**102.57**	**0.00**	**1.73**	**1.73**
MH 3275 –Other Communications Services:									
(a) Wireless Planning and Co-ordination	62.71	2.30	65.01	9.24	1.50	10.74	3.68	1.24	4.92
(b) Wireless Monitoring Services	6.50	10.16	16.66	0.07	11.63	11.70	0.00	9.12	9.12
(c) Contribution to International Telecommunications Union	0.00	6.00	6.00	0.00	6.00	6.00	0.00	5.42	5.42
(d) Contribution to Asia Pacific Telecommunity	0.00	0.70	0.70	0.00	0.70	0.70	0.00	0.00	0.00
(e)Telecommunication Commonwealth Organisation	0.00	0.48	0.48	0.00	0.48	0.48	0.00	0.00	0.00
(e) Transfer to Telecom Authority of India General Fund	3.00	13.00	16.00	3.00	13.00	16.00	3.00	13.00	16.00
(f) Telecom Dispute Settlement and Appellate Tribunal	1.00	2.13	3.13	0.70	2.35	3.05	0.70	2.34	3.04
(g) Compensation to I.T.I	0.00	1.50	1.50	0.00	3.00	3.00	0.00	5.99	5.99
(h) Transfer to USO Fund	0.00	1200.00	1200.00	0.00	1750.00	1750.00	0.00	1766.85	1766.85

(Rs. in crore)

	BE 2005-06			RE 2005-06			Actual 2005-06		
	Plan	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**
(i) Compensation to Service Providers	0.00	1200.00	1200.00	0.00	1750.00	1750.00	0.00	1766.85	1766.85
(j) Reimbursement to BSNL	0.00	0.00	0.00	0.00	616.67	616.67	0.00	582.96	582.96
Total - MH 3275	**73.21**	**2436.27**	**2509.48**	**13.01**	**4155.33**	**4168.34**	**7.38**	**4153.77**	**4161.15**
Total - Revenue Section	**156.34**	**3800.04**	**3956.38**	**91.95**	**5593.90**	**5685.85**	**82.61**	**5542.72**	**5625.33**
Capital Section:									
(i) Investment in ITI Ltd.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(ii) WMO	2.27	0.00	2.27	0.05	0.00	0.05	0.00	0.00	0.00
(iii) Loans to I.T.I	0.00	200.00	200.00	0.00	200.00	200.00	0.00	100.00	100.00
Total - Capital Section	**2.27**	**200.00**	**202.27**	**0.05**	**200.00**	**200.05**	**0.00**	**100.00**	**100.00**
Total Telecommunications Services	**158.61**	**4000.04**	**4158.65**	**92.00**	**5793.90**	**5885.90**	**82.61**	**5642.72**	**5725.33**

Note: This does not include expenditure under MH 3225 and MH 5225 as no cash outgo was involved

(Rs. in crore)

	BE 2006-07			RE 2006-07			BE 2007-08		
	Plan	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**
Budgetary Provision									
MH 3451-Secretariat Economic Services:									
(a) Secretariat (MOC)	0.00	5.48	5.48	0.00	5.62	5.62	0.00	6.10	6.10
(b) Directorate General Administration	0.00	86.98	86.98	0.00	66.68	66.68	0.00	87.67	87.67
(c) Administrator USO Fund	0.00	1.34	1.34	0.00	1.74	1.74	0.00	1.87	1.87
(d) C-DOT	66.00	0.00	66.00	68.00	0.00	68.00	116.10	0.00	116.10
(e) TEC	1.00	9.89	10.89	1.00	8.55	9.55	0.25	8.80	9.05
(f) Telecom Testing & Security Certfication Centre	5.00	0.00	5.00	5.00	0.00	5.00	6.00	0.00	6.00
Total -MH 3451	**72.00**	**103.69**	**175.69**	**74.00**	**82.59**	**156.59**	**122.35**	**104.44**	**226.79**
MH 2071 – Pension									
Pension	**0.00**	**1300.00**	**1300.00**	**0.00**	**1395.00**	**1395.00**	**0.00**	**1540.00**	**1540.00**
MH 2852 - Industries									
(b) Write off of Loans to ITI Ltd.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total -MH 2852	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
MH 3275 –Other Communications Services:									
(a) Wireless Planning and Co-ordination	13.61	1.62	15.23	6.00	1.83	7.83	0.40	2.18	2.58
(b) Wireless Monitoring Services	3.00	13.04	16.04	0.00	11.39	11.39	2.75	12.58	15.33
(c) Contribution to International Telecommunications Union	0.00	6.00	6.00	0.00	6.00	6.00	0.00	6.00	6.00
(d) Contribution to Asia Pacific Telecommunity	0.00	0.70	0.70	0.00	1.63	1.63	0.00	1.70	1.70
(e)Telecommunication Commonwealth Organisation	0.00	0.48	0.48	0.00	0.48	0.48	0.00	0.48	0.48
(e) Transfer to Telecom Authority of India General Fund	3.25	17.11	20.36	2.00	17.11	19.11	3.00	21.69	24.69
(f) Telecom Dispute Settlement and Appellate Tribunal	0.75	2.60	3.35	1.00	4.15	5.15	1.25	4.85	6.10
(g) Compensation to I.T.I	0.00	7.61	7.61	0.00	7.61	7.61	0.00	6.08	6.08
(h) Transfer to USO Fund	0.00	1500.00	1500.00	0.00	1500.00	1500.00	0.00	1800.00	1800.00
(i) Compensation to Service Providers	0.00	1500.00	1500.00	0.00	1500.00	1500.00	0.00	1800.00	1800.00
(j) Reimbursement to BSNL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(k) Technical Assistance	1.00	0.00	1.00	1.00	0.00	1.00	2.00	0.00	2.00
Total - MH 3275	**21.61**	**3049.16**	**3070.77**	**10.00**	**3050.20**	**3060.20**	**9.40**	**3655.56**	**3664.96**

(Rs. in crore)

	BE 2006-07			RE 2006-07			BE 2007-08		
	Plan	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**
MH 2552 -Prov. for North East Region									
(a) C-DOT	16.00	0.00	16.00	14.00	0.00	14.00	13.00	0.00	13.00
(b) WPC	2.00	0.00	2.00	0.30	0.00	0.30	0.00	0.00	0.00
(c) WMO	1.00	0.00	1.00	0.00	0.00	0.00	0.25	0.00	0.25
Total - MH 2552	**19.00**	**0.00**	**19.00**	**14.30**	**0.00**	**14.30**	**13.25**	**0.00**	**13.25**
Total - Revenue Section	**112.61**	**4452.85**	**4565.46**	**98.30**	**4527.79**	**4626.09**	**145.00**	**5300.00**	**5445.00**
Capital Section:									
MH 5275 - Capital Outlay on Other Communication Services									
(a) TEC	0.00	0.00	0.00	0.00	0.00	0.00	18.00	0.00	18.00
(b) WPC	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	10.00
(c) WMO	0.00	0.00	0.00	0.00	0.00	0.00	10.25	0.00	10.25
(d) Undersea Cabling -Land & A&N	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
(e) Net work for Defence Services	97.14	0.00	97.14	50.00	0.00	50.00	134.00	0.00	134.00
Total - MH - 5275	**98.14**	**0.00**	**98.14**	**51.00**	**0.00**	**51.00**	**173.25**	**0.00**	**173.25**
MH- 6859 - Loans to I.T.I Ltd	0.00	0.00	0.00	0.00	25.00	25.00	1.00	0.00	1.00
MH 4552 -Prov. for North East Region	2.86	0.00	2.86	0.60	0.00	0.60	20.75	0.00	20.75
Total - Capital Section	**101.00**	**0.00**	**101.00**	**51.60**	**25.00**	**76.60**	**195.00**	**0.00**	**195.00**
Total Telecommunications Services	**213.61**	**4452.85**	**4666.46**	**149.90**	**4552.79**	**4702.69**	**340.00**	**5300.00**	**5640.00**

Position of Utilisation Certificate:- No utilisation certificate for the Grants released upto 31.03.2006 is outstanding

CHAPTER – VI

REVIEW OF PERFORMANCE OF STATUTORY AND AUTONOMOUS BODIES

1. Telecom Regulatory Authority of India (TRAI)

Major activities undertaken by TRAI during April-December, 2006

(i) Recommendations on Allocation and Pricing of Spectrum for 3G Services and Broadband Wireless Access (BWA)
(ii) Recommendations on Components of AGR
(iii) Recommendations on Licensing issues relating to DTH
(iv) Recommendations for permitting usage of * and # in provisioning of intra-network services like USSD (Unstructured Supplementary Service Data) by Access Provision
(v) Regulation on Quality of Service for Broadband Services
(vi) Regulation on Quality of Service for Cable Services in CAS Areas
(vii) Tariff Order for Cable services in CAS Areas
(viii) Directive on compliance with National Numbering Plan
(ix) Decision on the Admissibility of Revenue Share between Visiting Network and Terminating Network for Roaming calls
(x) Decision on the Interconnect Usage Charges (IUC) for Short Message Service (SMS)
(xi) Decision on the Sale of Inbound International Calling Cards in India/ Tata Indicom's Global calling cards/Top up cards
(xii) Consumer protection measures including Guidelines on transparency regarding credit limit and display of Tariff information on Website, etc.
(xiii) IN Regulation
(xiv) Tariff Order for Commercial Subscribers in respect of CAS and non-CAS Areas
(xv) Analysis of lifetime validity plan with a view to assess their financial viability.

Major activities on which TRAI is presently working and which are likely to be completed during January to March 2007:

i) Consultation Paper on Port Charges.
ii) Consultancy on Techno Regulatory issues relating to Interconnection in a multi operator multi service Next Generation Network (NGN) scenario.
iii) International Private Leased Circuit (IPLC) Direction on Cable Landing Station (CLS)
iv) IPLC Reselling- terms and conditions
v) Finalization of Recommendations on measures to enhance competition in Domestic Leased Circuit market in India
vi) IUC/ADC Regulation.
vii) Consultation Paper on NGN interconnection related issues.
viii) Study Paper on Mobile Virtual Network Operator (MVNO).

ix) Information Paper on Regulatory, Licensing and Interconnection issues relating to Fixed-Mobile convergence.

x) Recommendations on Spectrum Management related issues.

xi) Issue of Unsolicited Commercial Communication.

xii) Draft regulation on MNP subject to DoT's approval.

xiii) Recommendation on effectiveness of NIXI.

xiv) Consultation Paper on NGN related issues to be made based on the report of NGN-eCO.

xv) Consultation Paper on the issues relating to Infrastructure sharing.

xvi) Study on ISP Licensing conditions.

xvii) Study on provision of IPTV.

xviii) Consultation Paper on Code of Practice for consumer complaint handling and Grievance Redressal Mechanism.

xix) Implementation of internal Data Base in TRAI for monitoring consumer complaints.

xx) Revision of QOS Regulation.

xxi) Enlargement of the Panel of Auditors for Audit of Metering & Billing System.

xxii) Engagement of Consultancy firm for conducting objective assessment of QOS.

xxiii) Capacity Building Workshop for consumers.

xxiv) Review of Tariff Order on Roaming Services.

xxv) Study on tariff for Internet Access Services including Broadband (To be continued on Quarterly basis).

xxvi) Report of the Committee for the development of National Standards for Set Top Boxes for Cable TV.

xxvii) E-filing of Interconnect Agreements for Broadcasting and Cable Services.

xxviii) Applicability of Tariff Order in the context of Direct To Home (DTH).

xxix) Review of QOS Regulation and Interconnection related issue for DTH Services – Digital Signatures.

xxx) Study on Media Research & Consumer surveys.

xxxi) Comprehensive Proposal for amendment in TRAI Act

xxxii) Hardware procurement for digital signature - solution for Telecom and Broadcasting Sector.

xxxiii) Estimation of β for the telecom sector for the purpose of determining WACC

The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "U".

2. Telecom Disputes Settlement & Appellate Tribunal (TDSAT)

2.1 The TDSAT has organized a seminar on "Dispute Resolution Mechanism" in the Telecom Sector at Bhubaneshwar, Orissa on 26th November 2006. The purpose of this seminar was to generate awareness among the stakeholders about the dispute resolution mechanism in the telecom sector in India, and to also make them familiar with the national scenario in this regard.

TDSAT has brought out a Comprehensive Compendium on Telecom and Broadcasting Laws, rules, regulations and tariff orders including articles by experts on various issues relevant to stake holders. A brochure on TDSAT Procedures has also been brought out for use of all concerned.

2.2 TDSAT has also become Sector Member of International Telecommunication Union (ITU) and in its capacity as sector member has been participating in the international seminars, conferences and events organized by ITU and other international bodies.

The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "V".

3. Centre For Development Of Telematics (C-DOT)

Details of Achievement, Activities and Performance of C-DOT

Schemes / Project deliverables planned for the FY 2006-07

- Innovative Services For Business & Industry
  - Ø NMS Enhancements
  - Ø Call Interception & Intelligent System (CIIS)
  - Ø Operating Support System (OSS)
- Advanced Intelligent Networks Services
  - Ø IN Enhancements & IN Based Services
- High Bit Rate Network Backbone On Fibre & Satellite
  - Ø WDM Technology
  - Ø Gigabit – Passive Optical Network (G-PON)
  - Ø Broad Band Transport Via Satellite (BBTS)
- Cell & Packet Technologies For Voice & Data Convergence
  - Ø Next Generation Network (NGN)
  - Ø Network Reliability Optimization for AISDN-17 Navy
- Wireless & Mobile Communication
  - Ø Wireless Access System
- Campus

Status of Various Technology Development Projects during the Year

- **INNOVATIVE SERVICES FOR BUSINESS & INDUSTRY**

  - Ø Trunk Automatic Exchange Network Management System (TAX NMS) deployment activities in the field are in progress.
  - Ø Field trial completed for GSM Network Management System (GNMS) with 32 nodes across the country to provide network management functions for BSNL based mobile network.
  - Ø As part of Operations Support System (OSS) project, internal validation and load testing for version-1 for clearing house application and field trial set up has been completed for national roaming; while pilot trial is under progress with processing on actual billing data files of MTNL and BSNL.

  - Ø In the field of Lawful Enforcement Interception Function (LEIF) feature and capacity implementation completed during the year and load stabilization is ongoing, whereas LEIF interfaces to two more technology switches, namely, OCB & EWSD, and Lawful Enforcement Monitoring Function (LEMF) FAX deduction implemented. As part of LIS implementation for packet network development SIP based (protocol) LEIF and LEMF functionality completed.
  - Ø C-DOT has developed a Missed Call Alert System (MCA) for GSM network of MTNL and BSNL. The system has been installed for field trial at Bangalore, Chennai, Hyderabad, Pune, Chandigarh and Kolkata to cater South (includes Tamil Nadu and AP circles), Western, Northern and Eastern circles respectively. The field trial for the same has been successfully completed. MTNL and BSNL have also accepted commercial proposals for its implementation in the network
  - Ø The trial for SMS on landline application is under progress at Rajahmundry, Andhra Pradesh. This system enables landline subscribers to send SMS to any mobile phones with without changing the instrument.
  - Ø All the deliverables planned under the scheme for Call Interception & Intelligent System (CIIS), Network Management System (NMS) enhancements, Operations Support System (OSS) (trial completion) are expected to be completed by the end of FY 2006-07

- **Advanced Intelligent Network (AIN)**

  - Ø Internal validation for WIN (Wireless IN) for TLF (Toll-Free) and PPC (Pre Paid Charges) services to be provided in the BSNL network is under progress. The field trial site has been allocated at Jaipur, Rajasthan and the preparatory activities such as site and equipment planning etc. have commenced parallely. C-DOT's WIN Solution shall provide novel value-added services to CDMA users. The services shall be progressively enhanced as and when new requirements emerge from the field.
  - Ø The field trial for C-DOT WIN solution is likely to be concluded by the end of the FY 2006-07

- **High Bit Rate Network Backbone on Fibre & Satellite**

  - Technology approval obtained after successful completion of field trial for Dense Wavelength Division Multiplexing system (DWDM). Transfer of technology has already commenced.
  - After completion of internal validation, Coarse WDM (CWDM) system has been offered to TEC for further validation. The system has also been installed in the MTNL network at Laxmi Nagar, Janpath and Jorbagh and working satisfactorily with live traffic.
  - Internal validation completed for STM-1 Ku band Broadband Satellite System (BBTS) which include RF up/down converter, modem switch over unit. Design implementation in progress for Gigabit – Passive Optical Network (GPON) system.
  - The technology approval for the deliverables, CWDM (Coarse WDM technology) is scheduled for completion during the year. The development work for Broad Band Transport via Satellite (BBTS) and GPON system is also proposed to be completed by the year end.

- **Cell & Packet Technologies for Voice & Data Convergence**

  - Pilot Trial of C-DOT NGN (Next Generation Network) Solution in the BSNL Network

    - MOU signed with BSNL for the field trial of C-DOT NGN solution in the network. Pilot field trial site allocated at Noida, Gurgaon and Bangalore for trial of Class-4 (IP TAX) and Class-5 (subscriber) services of C-DOT Next Generation Network (NGN) solution with strategic partners.
    - The installation and configuration of Class 4 and Class 5 Soft-switch, Trunk Media Gateway, Signaling Gateway, Announcement Server, Billing and Pre-paid Server have already been completed at NOIDA. The installation of Trunk Media Gateway at Gurgaon is also completed. Trunk Media Gateway and Signalling Gateway have been installed in Bangalore at Ulsoor Exchange and an additional Class 5 Soft-switch at Bangalore East Exchange. These gateways would be controlled by the Signaling gateway and the Class 4 Soft-switch located at NOIDA.
    - The internal Validation for Class-5 Soft-switch installed at NOIDA has been completed, while internal testing is going on for the Class-4 Soft-switch and Class-5 Soft-switch installed at Bangalore East Exchange.
    - Indigenous developments for various components are also in progress.

  - Acceptance testing (AT) of ATM for Defence Customization and Network Reliability & Optimization for ATM Based Integrated Shipboard Data Network (AISDN-17) project for Navy has been completed and the feedback incorporated. The project includes customization for ATM switch, Network Interface Unit (NIU), Network Health Monitoring system (NHMS), Performance Modeling & Latency Measurements, etc. The System has been reoffered for validation, which is nearing completion.
  - The pilot trial for C-DOT NGN solution is to be completed by end of the year. During the same period, the ATM customization for Defence is also likely to be completed.

- **WIRELESS & MOBILE COMMUNICATION**

  - Prototype for the rural wireless system developed and installed in the field for trial.

- Ø The field trial is to commence in a specific Radio frequency Band by the end of the year.

Technical Support Services

Product Support Enhancements / Field Support

C-DOT continued to provide Product Support to the existing network in the field by retrofitting and imparting training to Field Staff, wherever required. Various enhancements carried out during first two quarters of FY 2006-07 in the C-DOT Switching Systems, include:

- Ø A new software 2218 (3.6) has been developed and being lab-tested for C-DOT switching systems (MAX-XLs and SBM-XLs) to take care of metering and IOP stability related issues reported from various field sites. The software link will be released to field sites shortly for mass propagation after successful lab validation.

- Ø A new clean link 2_2_1_9 has also been developed to cater additional requirements such as the CENTREX features etc, currently under lab testing. The link will be updated to cater other requirements of BSNL like Personalized Ring Back Tone (PRBT), Call Completion to Busy Subscribers (CCBS) and Message Waiting indication (MWI) etc.

- Ø C-DOT AN RAX has been enhanced with following new capabilities:

  - Auto restoration of link to eliminate manual reset operation as required in previous version (the software version ANR-FO2-012.2 supporting the same) successfully completed the TEC testing and the field trial at 8 sites of AN RAXs connected to C-DOT MAX-XL in the BSNL network at Salem, Tamilnadu and approval accorded for its propagation at sites.

  - ISDN capability with development of additional Compact ISDN Terminal (CIT) Unit hardware as a separate set-top box and the complete system is named as AN-RAX (ISDN). The system with software version ANR-FO2-110 has been accorded technology approval after successful completion of its TEC testing and field trial with OCB-283 and C-DOT SBM-VE as Local Exchanges. The existing C-DOT 256P RAXs and AN RAXs in the field can be upgraded with the ISDN capability.

Business Promotion

- Ø C-DOT has made a Compact Embedded System (CES) ready for online collection of CDRs from its MAX - L / XL exchanges in the BSNL network. The system is required for providing a solution to the short-listed System Integrators (SIs) bidding for the BSNL's tender reissued for 'CDR based Customer care and Convergent Billing System'. Commercial proposal has been sent to the respective SIs.

- Ø Commercial proposal has been sent for C-DOT Subscriber Management (SM) product to SIs for integration with the third party provisioning solution-having interfaces with customer care and inventory management system etc.
- Ø C-DOT obtained order for the supply; installation and commissioning of 5 nos. of MCA (Missed Call Alert) system for BSNL's GSM network. The number is expected to increase in the near future. MTNL has also placed the order for deployment of Missed Call Alert (MCA) System in MTNL's GSM network at Delhi and Mumbai.
- Ø C-DOT, along with the technology partners, submitted its bid for Supply, Installation, Commissioning and Technical Support of VoIP Equipment on turnkey basis, against a tender requirement of BSNL, Kolkata.
- Ø C-DOT, along with M/s XALTED Information Systems Pvt. Ltd. submitted the Expression of Interest against the requirement of G-PON based Fibre to the home (FTTH) systems by BSNL , New Delhi
- Ø Techno-Commercial Proposal for the C-DOT's Lawful Interception System has been sent to the Directorate of Enforcement, Government of India and to MTNL, Delhi.
- Ø Commercial proposal for 'First Call Activation' of Virtual Card Calling (VCC) cards, part of IN services, has been sent to MTNL, Delhi as per their requirements and approval received for its implementation for GSM network at Delhi & Mumbai

Events & MoUs Signed

- Ø C-DOT actively participated in the TEC Sponsored Manufacturers' Forum to contribute towards finalization of TEC GRs on Personalized Ring Back Tone (PRBT) for PSTN, proposed changes for Large size Local cum Tandem Exchanges and amendments on Soft-switch for Transit applications.
- Ø C-DOT has entered into an agreement with BSNL for installation of Local Network Management System (LNMS) at 40 sites.
- Ø C-DOT has signed an MOU with BSNL for joint implementation and deployment of C-DOT's GSM Network Management System (GNMS) in BSNL Network, used for performance monitoring of MSCs, Base Station Controllers (BSCs) and Base Transceiver Systems (BTSs).
- Ø An MOU has been signed with Universal Services Obligation Fund Administration Fund Administration (USOFA) to provide technical consultancy for the project to support infrastructure for Cellular Mobile Services in rural and remote areas.
- Ø C-DOT has signed an MOU with Red hat India Pvt. Ltd. for working together to promote Linux and Open Source Solutions in the Telecom Sector besides extensive use in C-DOT.
- Ø A TOT agreement has been signed with ITI Limited for High Voltage Protection (HVP) Unit, required for alleviating the damage / recurring repair of Line Cards due to lightening, in BSNL network.

- **Patents & IPR**

- Ø C-DOT has filed the US patent application #10595538 on 'A novel architecture for a message bus'.
- Ø C-DOT applied for Intellectual Property Right (IPR) on C-DOT High Voltage Protection (CHVP). It is the main Protection module, which provides Primary Protection, Secondary Protection and Co-ordination between Primary and Secondary Protection on the Subscriber lines of AN-RAX (C-DOT Rural Exchange). The field deployment opportunities include – improved protection and thereby improve the performance of the existing systems and new

Installations too. CHVP developed for RAX/AN-RAX systems can also be used in C-DOT MAX Switches.

- **Exhibitions & Conferences**

  Ø C- DOT participated in the "India R&D 2006 – Mind to Market" held from December 4-6, 2006 at Vigyan Bhawan, New Delhi. The exhibition was organized by FICCI in Partnership with Department of Science & Technology, Department of Industrial Policy and Promotion and CSIR. Hon'ble President of India, Dr A P J Abdul Kalam inaugurated the event.

  Ø C-DOT participated in the International Conference & Exhibition **"India Telecom 2006**" organized by **Department of Telecommunications** in association with **FICCI** and **TEMA** held at Pragati Maidan, New Delhi. Honourable President Dr. A. P. J. Abdul Kalam inaugurated the event along with Minister of C & IT Thiru Dayanidhi Maran.

  Ø C-DOT is participating in **"Convergence India 2007"** organized in New Delhi during last quarter of the year.

Human Resource Development

Women Empowerment

C-DOT's management has always been sensitive to gender issues and has consistently worked towards creating organizational culture reflecting gender equality.

- Presently, about 33 % of staff in C-DOT is women.

Existing Policies

- All female staff members are allowed to avail up to 135 days maternity leave for delivery and up to 270 days leave subsequent to that (inclusive of 135 days maternity leave). For miscarriage/abortion, leave of a total of 45 days in the entire service is permissible.
- C-DOT offers accommodation and transport benefits to all its women employees with different options that maybe availed as per individual suitability. This ensures the safety and security of all women employees in the company.
- Career growth opportunities for women are available to women employees in C-DOT. In the last financial year, of the total employees promoted to higher grades, 37% of them were women. In management cadres (Team Leaders, Group Leaders, Technical Experts and Sr. Technical Experts) about 24 % are women.

Benefits for Persons with Disabilities

- C-DOT follows guidelines issued by Government of India with respect to reservations in jobs for persons with disabilities.
- The C-DOT Campus at Delhi has been constructed in such a manner to ensure barrier free environment for the persons with disabilities. The main entrance/exit can be approached through a ramp together with stepped entry. Even elevators connecting the various working areas have been installed in a way to facilitate persons with disabilities to move around freely from one wing to another.

Employee's Welfare

For giving employees the benefit of coverage for hospitalization expenses, to be met from their medical entitlement. C-DOT has taken Tailor-made group medi-claim insurance. Staff members (and their families) in executive cadres have coverage of Rs. 5 Lakhs and staff in non-executive cadres have been covered for Rs. 3.5 Lakhs. The policy has been made effective from 01 April 2006.

Library

The collection of C-DOT Library consists of more than 20, 000 books which includes Reference Books, Conference Proceedings, Hindi Books and over 100 periodicals, magazines and leading English & Hindi Newspapers. The entire collection of Library is accessible through OPAC (Online Public Access Catalogue) with the help of Library Intranet site. Digital information resources & services are available on server as well as online. Currently the Library has the following resources:

- Association of Computing Machinery (ACM)
- IEE / IEEE Electronic Library (IEL)
- ITU-T & ITU-R recommendations
- The European Telecommunications Standards Institute (ETSI)
- ISO/IEC Standards on Information Technology (JTC-1)

Apart from this, C-DOT Library is member of DELNET (Developing Library Networks), British Council Library, American Centre Library and NISCAIR (INSDOC).

Campus Infrastructure

- Bangalore office was shifted to its premises, acquired from ITI in Electronic city and is operational with all facilities suitable for R&D work after retrofitting and refurbishing the building.

Promotion of Hindi in C-DOT

C-DOT is making different efforts to ensure compliance of Official Language Policy of Government of India. Many innovative and different programmes have been initiated in this regard.

- **Inse Miliye...**

  To inculcate feeling of pride towards Hindi and inspiring the employees, a new series **Inse Miliye...** was initiated during 2005-2006. Celebrities from different fields are invited in this quarterly programme. During this period, C-DOT had proudly invited eminent scientists, journalists, filmmakers, social activists and artists of different genres of international repute.

- **Technical Seminar in Hindi**

  Importance of Hindi cannot be ignored in the propagation of Science and Technology. Being a technical organization C-DOT is directly connected with the issue. Keeping this in mind, Technical Seminars in Hindi were organized at both Delhi and Bangalore centres.

- **Hindi Utsav Celebrations**

C-DOT Celebrated Hindi Utsav from 14 September 2006 to 28 September 2006. During this fortnight employees were motivated to work more and more in Hindi. Famous novelist and writer Krishna Sobti inaugurated the Utsav. A **Kavi Sammelan** was organised on the occasion of **Hindi Diwas**.

The review of the performance for the year 2005-2006 and for the year 2006-2007 (up to 31st December 2006) is placed at Annexure - "W".

Annexure –U

TELECOM REGULATORY AUTHORITY OF INDIA [TRAI]

Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
1	Consultancy on Regulatory Issues under the Institutional capacity Building Project of TRAI	2.50	13 Studies/ Consultancies	Studies were completed -5 Studies are ongoing - 2 Study Consultation conducted -1 Study consultation deferred for the next year - 3 Study consultation dropped -2	
2	Provision of Training for TRAI officials under Institutional Capacity Building Project	0.50	To depute officials for capacity building trainings	-	
	Total	**3.00**			

TELECOM REGULATORY AUTHORITY OF INDIA [TRAI]
Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/ Project	Objective	Outlay	Outcome till 31-12-06	Remarks
1	Institutional Capacity Building Project of TRAI	A. Consultancies (i) Studies on Emerging Technologies – Issues related to awareness building, migration, interconnection and QoS pertaining to NGN (NGN – eCO) (ii) Studies on Media research & Consumer Surveys. (iii) Study on Quality of Service & Customer Satisfaction. (iv) Study on Interconnection in the Converged Multi-operator Multi-service scenario. (v) Up gradation and expansion for system Software for TRAI – Residual work. (vi) Hardware procurement for Digital Signature – Solution for Telecom & Broadcasting Sector. (viii) Legal aspects of growing telecom technology in a regulatory regime- Lessions from USA, UK, Europe, Malaysia.	3.25	0.13	Cross Industry NGN-eCO was formed. One meeting of the NGN-eCO was held on 11.10.2006. Three crore groups have been formed to firm up the issues. The consultancy proposal relating to market survey of the consumers of Cable and TV services, Cable Operators/ MSOs/DTH operators is currently under progress. An amount of Rs.2.40 lakhs has been paid to the consultants engaged for the purpose. M/s TUV South Asia Pvt. Ltd. Has been appointed as an independent agency to undertake objective assessment of QoS provided by the Basic and Cellular Service Providers and to ascertain customer perception of QoS. The Reports are being received regularly and after analysis the results are being published through issue of press releases. The report for the quarter ending September 2006 has been received and is being analysed. As the cost of the consultancy was estimated to exceed of Rs.25 lakhs, open bidding approach was adopted and tenders were invited. A Tender Evaluation Committee (TEC) was constituted for evaluation of tenders. Meeting of TEC was held on 1st December 2006 and 13th December 2006 to

		(ix) Procurement of Test Drive Equipments. B. Provision of training of TRAI Officers			evaluate the proposals received from bidders. This work has been completed. Work has been awarded and it is likely to be completed by March 2007. It has been decided by the Authority that this study shall be conducted in house. It has been decided to drop this work. Officers of TRAI were nominated to attend the training/seminars as part of the Capacity building plan.
	Total		**3.25**	**0.13**	

Annexure –V

TELECOM DISPUTES SETTLEMENT AND APPELLATE TRIBUNAL [TDSAT]

Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
1	Study Tour/Training	0.45	Study tourby Hon'ble Chairperson and members and training of officers of TDSAT	Training of officers of TDSAT and study tours of officers	
2	Setting up of TDSAT reference Library	0.05	Purchase of books and harware/software for up gradation of Reference Library	Books purchased for Reference Library and computers purchased	
3	Holding of Seminars/Consultancy	0.20	Holding of domestic seminars on subject relating to Telecom Disputes settlement in five cities, Appointment of Legal Consultant	Seminary held at Jaipur, Hyderabad, Guwahati, Kochi and Patna	
		0.70			

[Contd…Annexure –V

TELECOM DISPUTES SETTLEMENT AND APPELLATE TRIBUNAL [TDSAT]

Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/Project	Objective	Outlay	Outcome till 31-12-06	Remarks
1	Study Tour/Training	Study tour by Hon'Chairperson, Members and training of officers of TDSAT	0.40	0.36	Adjustment of TA bills of Members of their visits to Australia/New Zealand during March 2006, visit of Member to China and visit of Director and Admn Officer to Australia for training, Visit of Chairperson and Member II to Brazil and visit of Chairperson & Member I to Hong Kong
2	Upgradation of Reference Library	Purchase of books and hardware/ software for Upgradation of reference library	0.05	0.04	Books purchased for library, fees paid to Computer Programmer & Upgradation of computers
3	Seminars & Consultancy	Holding of domestic seminars on subject relating to telecom disputes settlement in four to five cities and continuation of appointment of Legal Consultant	0.30	0.11	(a) Seminar held at Bhubaneshwar, Orissa in Nov. 2006 and adjustment of expenditure relating to seminars held at Patna, Kochi & Guwahati during last financial year (b) Legal Consultancy fees paid to Legal Consultant
	Total		**0.75**	**0.51**	

Annexure – W

CENTRE FOR DEVELOPMENT OF TELEMATICS [C-DOT]
Performance for the year 2005-06

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
1	Wireless & Mobile Communication	13.38	Feasibility trial of rural wireless system for GSM & Broadband services	Dev work of all sub-systems of the soln is completed and their testing in lab in progress. Dev work relating to substitution of outsourced subsystem is ongoing	
2	Innovative Services for Business & Industry	19.15	Field trial completion of GSM NMS (GNMS) and commencement of deployment for GNMS & TAX NMS in field; Pilot trial of OSS's clearing house application; Pilot trial for call interception system deployment for TAX NMS system in field	Field trial completed for NMS for GSM network with 32 nodes across the country; nation-wide development for TAX NMS & GNMS planned OSS's Clearing house appln ready for pilot trial commencement in the field C-DOT interception soln, (CIIS) for circuit switch ready for pilot trial commencement in the field with C-DOT MAX technology	
3	High Bit Rate Network Backbone on Fibre & Satellite	14.21	Pilot/field trial commencement for DWDM tech & broadband satellite in Ku band; readiness of CWDM prototype system for lab demo.; GPON sub system development commencement	Field trial completed for DWDM system, tech approval awaited. Prototype ready for lab demo for CWDM system. Ku band system under integration testing phase. Design implementation in progress of GPON system	

C-DOT

(Rs. in crores)

Sl. No.	Scheme/Project	2005-06 R.E.	Physical Targets	Outcome	Remarks
4	Cell & Pocket Tech for Voice & Data Convergence	21.22	Pilot trial for Class 4 VOIP network for C-DOT solution with strategic partnership. ATM NIU (Network Interfact Unit) customisation for network reliability & optimization	Field trial site preparation work ongoing for Class4 VoIP network trial for C-DOT soln with strategic partnership IP/MPLS router & other NGN sub-systems components dev in progress Customisation for ATM NIU completed	
5	Advanced Intelligent Network Services	4.57	To demonstrate a pilot IN system for converged network	IN dev for CDMA sub completed for 2 services. IP/SRP for CDMA subscriber completed. IN for converged network activities in progress. Activity also completed for other enhancement e.g. SSIN	
6	Product Support enhancement/field support	40.43	Technology Upgradation to take care of obsolescence	Feature Upgradation for technology deployed in field	
7	Campus	5.44	Commencement of housing complex and part completion	Tender doc for residential complex ready, clearance from MCD Department awaited to commence the construction	
8	C-DOT Alcatel Research Centre	13.00	Development of WiMAX technology	Development ongoing	
	Total	**106.00**			

CENTRE FOR DEVELOPMENT OF TELEMATICS [C-DOT]

Performance for the year 2006-07 (up to 31st December 2006)

(Rupees in crores)

Sl. No.	Scheme/ Project	Objective	Outlay	Outcome till 31-12-06	Remarks
1	Innovative Services for Business & Industry	Pilot trial commencement for Call Interception System (CIS)	17.99	8.40	Feature and capacity implementation of LETF completed, Load stabilisation completed. LETF Interfaces for two more technology switches implemented, LEMF FAX detection implemented, SIP based LETF and LEMF developed, many platform related bugs resolved. LEMF interface with IDEA implemented LETF & LEMF released validated. Commercial proposals prepared & submitted for LETF functionality to Lucent & MTNL.
		NMS enhancements & development in the field			Field trial completed for GNMS (to provide network mgt for GSM based mobile network). MoU signed with BSNL for deployment of C-DOT GNMS in field to provide network management for GSM based mobile network; BSNL also completed its validation for commercial deployment of C-DOT GNMS soln. Technical doc finalized for nationwide deployment of C-DOT TAXNMS system. New s/w versions of C-DOT LNMS released & deployed in select sites of BSNL & MTNL network. Product & Field support are ongoing w.r.t. C-DOT NMS developed & deployed soln for any enhancements/ deployment in the field.
		Pilot trial commencement for OSS's clearing house application for National Roaming			Internal validation & load testing for version-I completed for the clearing-house appl; field trial set-up has been completed & pilot trial is in progress with MTNL Delhi. Discussions for the field trial with BSNL in progress.

2	Advanced Intelligent Network (IN)	IN for converged Network with progressive deliveries – both legacy & broadband networks; initial trial for IP network	7.15	5.17	Internal val completed for WIN (Wireless IN) for 2 services namely, TLF (Toll-free) & PPC (Pre Paid charges) to be provided in BSNL network. Currently, field trial in progress. The services shall be progressively enhanced as when new requirements emerges from the field. BSNL's requirement for providing new features as mentioned in CDMA tender are being developed in WIN solution.
3	High Bit Rate Network Backbone on Fibre & Sat.	Technology/Approval for WDM Tech namely, DWDM Pilot/Field trial completion of CWDM (Linear conflg) Pilot trial commencement for GPON system Pilot/field trial completion for BBTS in Ku band, ToT for these technologies for productionization	9.34	5.62	Technology Approval (TA) awarded after successful completion of field trial. ToT activity commenced. Inf val for CWDM system (linear confg) completed & system has also been installed in MTNL network at Laxmi Nagar, Janpath & Jorbagh, working satisfactorily with light traffic. System has also been offered to TEC for validation. GPON – Design implementation in progress. Internal validation completed for KU Band up/ down converter & modem switch over unit which form a part of STM-I Ku band system; Lab testing of STM-I modem in progress. Integrated testing of RF Switchover units with Ku Band converters in progress.

4	Cell & Packet Tech for voice & data convergence	Pilot trial for class 4 & Class 5 VoIP network of C-DOT NGN solution. Pilot trial for C-DOT integrated NGN solution with indigenous NGN components – enhanced capacity, media gateway, MPLS routers, etc. Acceptance Testing completion for AISDN- 17 Navy Project	3.60	8.56	Pilot field trial site allocated namely, Noida(UP), Gurgaon(Haryana) & Bangalore for trial of Class-4 & Class-5 services of C-DOT NGN soln with strategic partners. Site preparation work at Noida, Gurgaon & Bangalore completed for pilot trial of Class-4(IPTAX) & Class-5 services (subscriber) with installation of required equipment namely, Class-4 equipment- vocal Tec soft-switch, media & signaling gateways (at Noida), media gateway (at Gurgaon) & Class-4 services at Bangalore (Ulsoor); Class-5 equipment – Net Centrix soft-switch, media & signaling gateways (Bangalore) to interwork with PSTN subscriber with trial site at Bangalore East; Similarly, field trial site at Noida vocal Tec soft-switch with media & signaling gateways. Internal vol. for Class-5 soft switch installed at Noida completed. Internal testing/validation in progress for class 4 & class 5 soft-switch at Bangalore East Exchange. First phase of TEC validation of Vocal Tec Class 5 and Net Centrex Class 5 solution, has been done. Indigenous development for various components are also in-progress. Acceptance Testing (AT) feedback has been incorporated and has been offered to validation group for testing. The system was offered for validation on 12.9.2006. Validation on single ATM switch and NIU is near completion. The system will be tehn be offered for network level testing.

5	Wireless & Mobile Communi-cation	Pilot/field trial of integrated C-DOT rural wireless access solution Pilot trial commencement for rural wireless application software for e-governance, education & other services	4.50	3.02	Field trial site allocate at Salem (Tamilnadu). The equipment has been dispatched to the site for pilot trial & some of the sub-systems installed. Live call successfully tested through BSS at Salem. The commencement of the trial awaits allocation of frequency.
6	Campus	Award of contract & commencement of housing complex, construction activities	10.31	0.98	Tender document for residential complex prepared and kept ready, awaiting MCD approval. Work for sub-station room for housing is in progress.

7	Product Support Enhancement/ Field Support	Feature enhancement/ Upgradation for technology deployed in the field	46.31	25.19	Ongoing activity
8	Study/ Explorative Projects (New)	The study is planned in some of the following areas; IP over Satellite, Broadband over Power Lines (BPL), Optical Cross Connect (OCX) System, High Channel Count DWDM system. At the end of the financial year a study report is expected as per ABP 2006-07 document of these projects	5.50	0.00	Explanatory work
	Total		**104.70**	**56.94**	