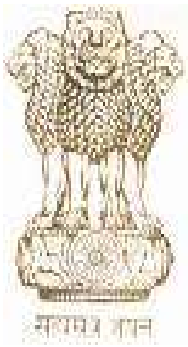

GOVERNMENT OF INDIA

OUTCOME BUDGET

2010-2011

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. Thus, the Outcome Budget has become an integral part of the budgeting process since 2005-06.

As per the latest guidelines issued by Ministry of Finance vide letter no.F.No.2(1)/Pers/E-Cord/OB/2005 dated 6th January, 2010, OUTCOME BUDGET 2010-11 will broadly indicate the physical dimensions of the financial budgets as also the actual physical performance in 2008-09, performance for the first nine months of the year (2009-10) and the targeted performance during 2010-11. In pursuance to the instructions issued by Ministry of Finance, Outcome Budget 2010-11 has been prepared for the Department of Telecommunications.

Today, India's 543 million strong telephone network is the second largest wireless network (506 million) in the world. Wireless telephony has been growing at a Compound Annual Growth Rate (CAGR) of about 73% since 2003. India is also the fastest growing telecom market in the world with an average addition of over 14 million connections being added every month in the network; the mass market growth in India is led by the mobile segment. This rapid growth in the telecom network has resulted in an overall teledensity of 46.32% at the end of December 2009. This has surpassed the targeted teledensity of 15 % by 2010 as per New Telecom Policy (NTP) 99. The target of 500 million connections by December 2010 has already been achieved by September 2009. This growth in the telecom sector is attributable not only to the proactive and positive policy initiatives of the Government but also to the entrepreneurial spirit of the various telecom service providers both in public and private sector.

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 2010-11 is towards the outlays of WPC[2], WMO[3], TEC[4], TRAI[5], TDSAT[6], C-DOT[7] and four departmental projects.

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 operators except pure value added service providers like internet service provider, voice mail etc. The outlays for USOF forms part of the non-plan expenditure of the Department.

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

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 progress of covering the uncovered 62302 villages under the flagship "Bharat Nirman" programme is 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 divided into six chapters. Chapter I gives 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 primarily in a tabular format and its main objective is to illustrate one-to-one correspondence between Financial Budget 2010-11 and the physical targets for 2010-11. 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 with particular focus on the initiatives undertaken during past 2-3 years. Chapter IV is the review of the past performance during the year 2008-09, 2009-10 (upto December 2009) 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

1.1 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.

1.1.1 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.

1.1.2 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 Planning Coordination (WPC) & Wireless Monitoring Organization (WMO)
ii) Telecom Engineering Centre (TEC)
iii) Administrator, Universal Service Fund (USF)
iv) Controller of Communication Account Offices (CCA's)
v) Telecom Enforcement, Resources and Monitoring cells previously known as Vigilance and Technical Monitoring (VTM's) cells.

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

1.2 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' services 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

1.3 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

1.4 Department of Telecommunication

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. After the formation of BSNL, it remains responsible for policy matters, licensing, spectrum management and co-ordination.

1.4.1 Wireless Planning and Co-ordination (WPC) Wing

1.4.1.1 Introduction

The WPC wing in the Department of Telecommunications deals with the policy of spectrum management, wireless licensing, frequency assignments, international coordination for spectrum management and administration of Indian Telegraph Act, 1885, for radio communication systems and Indian Wireless Act, 1933 (IWTA)

1.4.1.2 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/Organization 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 Organization, the field organization.

V. Attached/Field Offices of DoT

1.4.2 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 lakh of employees of DoT, BSNL and MTNL.

1.4.2.1 Functions being performed by CCA Offices

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

i. **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.

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

iii. **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 assess and collect 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 1200 licensees under UASL/Basic/CMTS/NLD and other services.

iv. **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.

v. **Verification of Deductions**: As per the license agreement, licensees claim deductions to calculate license fee payment. The CCAs are verifying the deductions on a quarterly basis (on account of pass through 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.

vi. **Spectrum Charges:** The CCAs are responsible for collection and monitoring of Spectrum Revenue from Telecom service providers in respect of approx. 300 licensees relating to GSM/CDMA/UASL etc.

vii. **Universal Service Obligation:** The CCA offices are responsible for the verification of USO subsidy claims of the eligible service providers and release of payments. They are also responsible for physical inspection of facilities and monitoring the progress of Rural Telephony which has a direct bearing on subsidy disbursed.

viii. **Legal Matters:** The CCAs 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 and other legal issues in which the Department of Telecom, Government of India is made a respondent etc.

ix. **Pension Adalats:** The CCAs also hold Pension Adalats and liaison with State Departments and other ministries on various issues.

1.4.3 Telecom Enforcement, Resources and Monitoring cells (TERM):

1.4.3.1 With the increasing number of telephone operators in the country the Government felt the need of presence of Telegraph Authority in the circles. The TERM cells are functioning as the field offices of the DoT. These cells perform the vigilance and monitoring functions.

1.4.3.2 Vigilance Functions:

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

1.4.3.3 Monitoring Functions:

i. Coordination and monitoring of various network operators.
ii. To check the compliance to the roll-out obligation as per license condition
iii. Checking of the compliance by the licensee in respect of the license conditions and any directions issued by the licensor in public interest.
iv. To ensure optimum call completion ratio of inter operator calls.
v. Matters related to national security.
vi. Disaster Management: Taking over of network in the events of natural calamities or the other emergency situations.
vii. Grievance redressal of subscribers in respect of deficiency by various operators.
viii. 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

1.4.4 Telecommunication Engineering Centre (TEC)

1.4.4.1 Telecommunications Engineering Centre (TEC), is a Technical wing of the Department of Telecommunications (DoT), Ministry of Communications and Information Technology, Government of India. In addition to providing technical support to DoT, TEC also publishes documents detailing the technical requirement for all telecom equipments to be used in various telecom networks in India. It also tests and certifies telecom product and networks for conformance to the aforesaid requirements as well as for interoperability. Its major activities and responsibilities are:

- Formulation of technical requirements, viz., Generic, Interface, and Service Requirements, for all telecom equipments, interfaces, and services to ensure seamless interworking of different networks of various telecom service providers in India.
- Formulation of Fundamental National Telecom Plans, viz., Numbering Plan, Spectrum Management Plan, Transmission Plan, Switching Plan, Synchronization Plan, and provide technical support to service providers in implementing them.
- Formulation of standards to limit harmful electromagnetic interference to ensure proper functioning of equipment, as well as to ensure safety for human beings.
- Formulation of norms to ensure optimal utilization of scarce resources, like radio spectrum
- Testing and certification of equipment, interfaces, and networks for conformance and interoperability
- Testing and certification of equipment, to promote indigenization and manufacturing take-off in India by active co-operation with C-DOT, to develop telecom technologies aimed specifically for rural areas.
- Monitoring of the network for compliance to the laid-down norms and standards
- Interaction with other forums, stakeholders and associations, and international telecommunication standards organizations, for standardization and for protecting the interests of India
- Functioning as Designating Authority (DA) for India, for designation of domestic and recognition of foreign Conformance Assessment Bodies (CAB) and Certification Bodies (CB) for testing and certification of telecom products for the use in the countries having Mutual Recognition Agreement (MRA).

1.4.4.2 TEC has the following technical Core Divisions which handle various activities in standardization of technical requirements of telecom products and networks related to the technology streams

- Fixed Line Access
- Information Technology
- Mobile Communication
- Network Terminals with Customer Premise Equipment
- Radio
- Services and Applications
- Spectrum
- Switching
- Transmission

In addition, Technical Divisions handle various other activities.

- Conformity Assessment Bodies (CAB) and Training
- Next Generation Network (NGN) Test-bed
- Next Generation Network (NGN) Coordination

- Testing and Certification (T&C) with the help of following Regional Centres

  (i) Regional TEC, Delhi for Northern Zone
  (ii) Regional TEC, Kolkata for Eastern Zone
  (iii) Regional TEC, Mumbai for Western Zone
  (iv) Regional TEC, Bangalore for Southern Zone

1.4.4.3 TEC publishes a number of technical documents. To ensure compliance to Conformance, Interoperability, EMI/EMC, Security, Safety, Health issues in telecom equipment, the following documents are published.

- Generic Requirements (GR)
- Interface Requirement (IR)
- Service Requirement (SR)
- Standards Document (SD)

1.4.5 Wireless Monitoring Organization (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 Jalna (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.

1.4.6 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[8], RCPs[9], 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

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

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:

i. Implementation of the guidelines laid down by Government for providing Universal Service Support;
ii. Enter into Agreement with the Universal Service Providers for the purposes of implementation of Universal Service Obligation.
iii. Suggesting such changes in policy as may be deemed necessary for implementation of Universal Service Support;
iv. Forecasting the requirement of Universal Service Funds for each financial year and obtaining approval of Government through Department of Telecom; and
v. 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.

VI. Regulatory Authority/Appellate Tribunal

1.4.7 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.

1.4.7.1 Functions of TRAI

1.4.7.1.1 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.

1.4.7.1.2 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.

1.4.7.1.3 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.

1.4.8 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.

VII. Autonomous Body

1.4.9 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 organization is funded mainly by way of grants-in-aid from the Government.

1.4.9.1 Key Objectives

i. Development of total telecom solutions, technologies and application for the fixed line, mobile and packet based converged network & services with particular emphasis on rural and remote areas.
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 the futuristic trends.
iv. Research and development in the telecom security arena of telecom equipment as well as services.

VIII. Public Sector Undertakings

1.4.10 Bharat Sanchar Nigam Limited (BSNL)

1.4.10.1 In pursuance of New Telecom Policy 1999, the Govt. of India corporatized 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.

1.4.10.2 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.

1.4.10.3 BSNL has the largest telecom network in the country. It operates the telecom services in all the telecom circles of the country except Delhi and Mumbai where another PSU viz MTNL is operating.

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

1.4.11 Mahanagar Telephone Nigam Limited (MTNL)

1.4.11.1 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.

1.4.11.2 The vision of MTNL is to be a leading integrated player in telecom, diversifying into related businesses in order to expand significantly, keeping customer delight as the aim. The key objectives of the company are:

- To expand the existing customer base and services
- To provide services to the customers based on the latest technology
- To achieve the highest levels of customers' satisfaction.
- To support R&D projects
- To improve productivity by training and redeployment of man power
- To provide better corporate governance.

1.4.11.3. MTNL under a license issued on February 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).

1.4.11.4 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.

1.4.11.5 In the international arena, a wholly owned subsidiary under the name of Mahanagar Telephone Mauritius Ltd. (MTML) has been providing services in Mauritius. It has already rolled out CDMA based fixed and mobile services as well as internet & ILD services.

1.4.11.6 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.

1.4.11.7 Millennium Telecom Limited (MTL), a joint venture company of MTNL & BSNL, is planning to lay its own submarine cable system from both east & west of the country to far South-East Asia & Middle East with an ultimate aim for onward connectivity to Europe and North America.

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

1.4.12 ITI Limited

1.4.12.1 ITI 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 and Mankapur. In addition Network Systems unit with headquarters at Bangalore provides value-added services like Radio Paging, VSAT, etc. and there are 10 Regional Offices. It 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.

1.4.12.2 The strength of ITI lies in the strategic area of communications for Defence and the same has been epitomized by the prestigious ASCON project. 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.

1.4.12.3 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 continue its exports efforts in Afghanistan, Africa and SAARC countries.

1.4.13 Telecommunications Consultants India Limited (TCIL)

1.4.13.1 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. The Company is establishing itself in the changed Telecom & IT

Scenario and has diversified into Information & Technology and Civil construction sector.

1.4.13.2 The vision of TCIL is "To excel in providing solutions in ICT, Power and Civil Infrastructure Sectors globally by anticipating opportunity in technology".

1.4.13.3 TCIL works towards the following objectives:

- To provide world-class technology and Indian expertise globally in all fields of telecommunications and information technology
- To sustain, expand and excel in its operations in Overseas/Indian Markets by developing proper marketing strategies.
- To acquire State-of-the-Art technology on a continuous basis and maintain leadership.
- To diversify into Cyber Parks, Cyber Cities, Intelligent Buildings, Highways and Roads and other Civil Works.
- Entering areas of cost-effective network technologies for building new Telecom & IT networks and upgrading legacy networks.
- Focusing on Broadband Multimedia Convergent Service Networks.
- Entering into new areas of IT as system integrator in Telecom billing, Customer Care, Value added services, e-Governance networks and the like.
- Aggressively promoting O & M contracts abroad in the IT and Telecom fields by utilizing TCIL's expert technical manpower.
- Developing Telecom & IT training infrastructure in countries abroad.
- Aggressively participating in SWAN Projects in various states.

1.4.13.4 Core Competence

1.4.13.4.1 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 intelligent buildings, cyber parks, roads etc.

1.4.13.4.2 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. and operation of WLL (Wireless in Local Loop) system based basic services in Nepal, through a JV with MTNL, VSNL and a Nepalese partner. The company is currently working on contracts secured in Sudan, Saudi Arabia, Mauritius, Kuwait, Oman, Ethiopia and UAE etc. TCIL is also working on Pan-Africa e-Medicine and e-Education for 53 African countries.

CHAPTER – II

Outcome Budget 2010-11

The Outcome Budget 2010-11 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 2010-11 prepared for the Department of Telecommunication includes the following:

2.1 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 providers like 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.

Initially the thrust of the activities under taken by USO Fund was on providing public access to rural and remote areas which included operation & maintenance expenses towards Village Public Telephones (VPTs), support for provision of new VPTs in uncovered villages and for Rural Community Phones (RCPs). Subsequently the individual telephones (RDELs) were also provided subsidy support from USO Fund. To broaden the scope of USOF and to include mobile services, broadband, general infrastructure and pilot projects for induction of new technological developments in its ambit, Indian Telegraph Rules were amended on 17-11-2006 to enable support for providing various telecom services in the rural and remote areas of the country. With the amendment to Indian Telegraph Rules & Act in 2006, USOF has been enabled to launch a number of new schemes for rural telecommunications.

A. Public Access

Under Public Access, Village Public Telephones, Rural Community Phones and replacement of MARR VPTs are covered. The provision of VPTs in census 1991 villages without any public telephone facility is covered under the flagship **Bharat Nirman Programme** of Government of India. Under the scheme, 66822 (Nos. revised to 62302) uncovered villages had been identified for provision of VPTs. By 31st of December, 2009, VPTs have been provided in 61186 uncovered villages.

An Agreement was also entered into with M/s BSNL for provision of VPTs in the 62443 newly identified uncovered villages as per census 2001. As on 31-12-2009, 36039 VPTs have been provided under the scheme. The remaining VPTs are targeted to be provided by February 2011.

B. Individual Access

The scheme covers installation of Rural Household Direct Exchange Lines (RDELs) during the period 1.4.2005 to 31.3.2007. The cutoff date of installation of RDELs has been extended upto 31.3.2010. Under the scheme, about 70.49 lakh RDELs have been installed upto 31st of December, 2009.

Subsidy support is also being provided towards18.6 lakh RDELs installed between 1.4.2002 and 31.3.2005.

Based on the recommendations of TRAI, Indian Telegraph Rules (ITR) have been amended to provide subsidy support to the eligible operators for operational sustainability of Rural Wireline Household DELs installed prior to 01.04.2002. A MOU has been signed with M/s BSNL for providing subsidy support of Rs. 2000 cr. per annum for a period of 3 years w.e.f. 18.07.2008 under the scheme in lieu of ADC which has been phased out.

C. Shared Infrastructure Support (Towers & Mobile Services) – Phase I

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. Agreements for setting up and managing infrastructure sites and provision of mobile services in rural and remote areas have already been entered into and the scheme has been launched on 01-06-2007. The scheme covers setting up of 7871 (numbers revised to 7387 as a result of addition/dropping of towers as on 31-12-2009) towers in rural and remote areas in 81 clusters spread over 500 districts all over the country where there is no existing fixed wireless or mobile coverage. Each tower will be shared by three telecom service providers. By 31st of December, 2009, 6956 towers have been set up under the scheme.

D. Wireline Broadband Connectivity in Rural and Remote Areas

An Agreement was entered into with M/s BSNL on 20-01-2009 for provision of Broadband connectivity in rural and remote areas from about 28000 rural wire line exchange spread across the country. Under the scheme 8,61,459, broadband connections shall be provided to individual users and Government institutions over a period of five years i.e. by 2014 by leveraging the existing rural exchanges infrastructure and wireline network. The speed of each of the broadband connection shall be at least 512 Kbps always on, with the capacity to deliver data, voice and video services in the fixed mode. Further, one broadband kiosk shall also be provided from each rural exchange. The kiosk shall provide internet access and other facilities such as printing, scanning, video conferencing and value added services. Government institutions i.e. schools, primary health

centers, Panchayats etc. and individual subscribers will benefit from the scheme. As of December 2009, 95011 broadband connections and four (4) kiosks have been provided under this scheme.

E. New/Forthcoming schemes

- **Infrastructure Support for Mobile Services (Phase-II)**

  It is proposed to provide subsidy support for covering other uncovered areas in the country through mobile services**.** Villages or cluster of villages with population of 500 or more without mobile coverage have been taken into consideration for installation of towers under this scheme. About 9,000 additional towers shall be set up under this scheme.

- **Infrastructure Support for Mobile Services (Phase-III)**

  Isolated and remote uncovered villages/ cluster of villages having scattered population shall be covered with mobile services using 'Micro Telecom Systems' under the scheme. About 5000 'Miniature BTSs' are proposed to be set up under this scheme.

- **Pilot Projects**

  Under the scheme support shall be provided for Pilot projects to establish new technological developments in the telecom sector, which can be deployed in the rural & remote area. About five pilot projects are likely to be provided subsidy support at an upper ceiling of Rs. 50 Lakh per project. Successful technology providers have been declared and MOU is likely to be signed shortly.

- **Renewable energy**

  Support is also being considered for renewable energy resources (Solar, Solar/Wind, Hybrid renewable energy solutions) at 20-28 Shared Mobile Infrastructure sites (Phase-I) on pilot basis. The bids for the scheme are under evaluation.

- **Solar Mobile Charging Stations**

  Support is being considered for mobile charging stations in about 5000 villages in coordination with TERI's project of Lighting a Billion Lives (LaBL). The Agreement is likely to be signed with TERI shortly.

- **Wireless Broadband Connectivity in Rural And Remote Areas**

  The scheme is aimed at providing subsidy support for the wireless broadband active infrastructure such as BTS, by utilizing the existing passive infrastructure available with the Telecom service providers (TSPs). The scheme would provide broadband coverage to about two lakh villages and rest of the villages shall be covered in subsequent schemes. The scheme would be taken up after the BWA and 3G spectrum auction process is complete.

- **Satellite Broadband Connectivity In Rural And Remote Areas**

  The scheme would cover provision of broadband connectivity in 5000 villages which do not have any terrestrial connectivity.

- **General Infrastructure Augmentation-Optical Fiber Network Augmentation, Creation & Management Of Intra District SDHQ-DHQ OFC Network.**

  With a view to provide sufficient back-haul capacity to integrate the voice and data traffic from the access network in the rural areas, i.e. villages, to their core network, USOF has taken up an initiative to strengthen the OFC network in the rural and remote areas. The scheme considers OFC network augmentation between the blocks' HQ. and Districts' HQ. to begin with. The scheme is envisaged to be rolled out in a phased manner during the current five year plan (2007-2012). Assam service area has been taken up first for implementation and as per the outcome of the tender floated for this scheme, an Agreement shall be signed with BSNL shortly. For service areas other than Assam, tenders are to be floated shortly. In the next stage the service areas of N.E. & West Bengal shall be taken up.

- **BE 2010-11**

  In view of the abovementioned ongoing and new activities, the Department of Telecom has been allotted an amount of Rs.2400 crore in the Budget Estimates (BE) for the year 2010-11. Based on the actual physical outcome in respect of both ongoing and new activities, the requirement of funds will be reassessed at RE stage. It is expected that in the financial year 2010-11, USOF activities would progress considerably and bring about a resultant positive impact on rural connectivity, teledensity and socio- economic progress.

2.2 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.8.00 crore has been provided under the plan 2010-11 for the setting up of NGN Lab for testing and certification of transport equipment under NGN test bed and setting up of SAR Lab for conformance and other activities and Outcome Budget[10] has been prepared for the same.

2.3 Wireless Planning & Coordination (WPC)

The approved plan outlay of Wireless Planning and Coordination Wing for the year 2010-11 is Rs. 0.50 crore. WPC, as part of the Telecom Sector Reform Technical Assistance Project, has implemented National Radio Spectrum Management and Monitoring System (NRSMMS). This project strives to improve the utilization of Radio Frequency Spectrum, which is a scarce

[10] Refer Annexure-B

national resource and essential for modern telecommunication services. Under this project, spectrum management and monitoring functions have been automated with a view to making spectrum management process more transparent, effective and efficient. The Outcome Budget[11] of WPC relates to the residual payment being undertaken under this project.

2.4 Wireless Monitoring Organization (WMO)

The approved Plan Outlay for Wireless Monitoring Organization is Rs.42.36 crore for the year 2010-11 and the Outcome Budget[12] relates to the outlay. The funds would be utilized mainly for the establishment of 6 additional Wireless Monitoring Stations (WMSs) at Bhubaneshwar, Dehradun, Lucknow, Patna, Raipur & Vijayawada, augmentation of training facilities, upgradation of Microwave Monitoring Terminals and civil works.

2.5 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 design and development of Communication & Security, Research and Monitoring related to security management for law-enforcement agencies, the development and deployment of next generation networks and cost effective rural wireless solutions. A plan outlay of Rs.309.00 crore has been approved for C-DOT during 2010-11 with Rs.269.00 crore as budgetary support and Rs 40.00 crore is expected from the internal resources of C-DOT. The projects to be undertaken by C-DOT during 2010-11, which are part of the Outcome Budget[13] comprise of security related projects, development of technology for rural areas, technologies for the NE Region, broadband technologies and Strategic and Enterprise solutions etc.

2.6 Telecom Regulatory Authority of India (TRAI)

A sum of Rs 11.00 crore has been provided under Plan for the 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. The funds have also been provided for the land & building component of TRAI. The Outcome Budget[14] for TRAI pertains to the above parameters.

2.7 Telecom Disputes Settlement and Appellate Tribunal (TDSAT)

A sum of Rs.1.30 crore has been provided under Plan to TDSAT. The funds would be utilized for up-gradation of reference library, holding of seminars on telecom disputes and settlement, study tour for familiarization with telecom regulatory environment/training. The Outcome Budget of TDSAT, therefore, relates to the above facilities.

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[11] Refer Annexure-C
[12] Refer Annexure-D
[13] Refer Annexure-E
[14] Refer Annexure-F

2.8 Bharat Sanchar Nigam Limited (BSNL)

Bharat Sanchar Nigam Ltd. (BSNL) has an approved Plan Outlay of Rs. 14891.00 crore without GBS for the year 2010-11. The funds would be utilized for the provision of telecom services internet, broadband facilities amongst other programmes given in the Outcome Budget[15].

2.9 Mahanagar Telephone Nigam Limited (MTNL)

The approved plan outlay of MTNL for the year 2010-11 is Rs. 1204.10 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[16] of MTNL mainly relate to increase in the net switching capacity, IT related services and to support Expansion in New Services Areas abroad and national acquisitions.

2.10 ITI Limited

ITI Limited has been provided a token sum of Rs. 1 crore as budgetary support under plan for 2010-11[17].

2.11 DoT Projects

The Budgetary support of Rs 2000 crores includes provision for the following projects and the Outcome Budget[18] has been prepared accordingly.

(a) Setting up of Telecom Testing and Security Certification Centre (TETC): Advances in computer and communication technology have formed the basis for global economic growth and increase in the standard of living. With this increased reliance on technology comes the need to make our information systems more secure, trust-worthy, sustainable and available in the face of both intentional attacks and accidental faults. There is a need for more comprehensive tests in order to assure oneself of secured network. It is important to create a test bed in an environment in which the Government has adequate control in devising protocols and procedures for testing as well as the flexibility to carry on research. There is also the need for capacity building and training in this highly specialized field. This test bed will test every telecom product for its stated and unstated performances.
For funding this project, a capital expenditure of Rs 20.00 crores has been envisaged. Out of this Rs 8.00 crore has already been granted. TETC has finalized test standards for security testing and even generated test reports. An amount of Rs. 2 crore has been provided in 2010-11.

(b) Technology Development & Investment Promotion: The Government has an important role in promoting investment in the manufacturing sector and export of telecom equipments to the developing/under-developed nations. For meeting the requirement for various promotional schemes, providing technical assistance and for setting up of Telecom Centres of Excellence,

[15] Refer Annexure-H
[16] Refer Annexure-I
[17] Refer Annexure-J
[18] Refer Annexure-K

TDIP scheme has been created. An amount of Rs 3.00 crore has been allotted for this purpose for the year 2010-11.

Under this scheme, broadly the following three schemes are funded:

i) Setting up of eight (8) Telecom Centres of Excellences (TCoE) including Centre for Excellence for Spectrum;

ii) To showcase Indian telecom sector, DoT organizes India Telecom annual exhibition & conference in the month of December every year. Promotion of Indian Telecom sector is also achieved through participation in various International Telecom events; and

iii) With a view to increase exports of telecom related items, Telecom Equipment & Services Export Promotion Council (TEPC) has been set up. DoT provides financial support for its administrative expenses and event based assistance.

(c) Undersea Cabling between Mainland and Andaman & Nicobar (UM&AN): In order to provide an alternate redundant path to avoid communication black out in the event of an unforeseen natural calamity/disaster such as tsunami, earthquake etc it was felt eminently desirable to have a submarine cable link from mainland to Andaman & Nicobar Island. The need for an alternate and more importantly reliable communication link was also due because of the strategic location and importance of the islands. Accordingly a proposal was initiated to lay a submarine cable to Port Blair from Chennai and further to Car Nicobar, Hutbay, Kamorta and Campbell bay. Later on it was decided that a branching cable (spur route) shall be laid to Port Blair and Car Nicobar islands from the international cable which BSNL/MTNL are considering to lay towards SE Asia from the Eastern coast (Digha in West Bengal) of India, as the earlier stand-alone route was not techno-economically feasible, thus also reducing the cost considerably. A sum of Rs 161.84 crore has been provided for this project in BE 2010-11.

(d) OFC based network for Defence Services (DS): The project is meant for building an exclusive dedicated alternate communication network for Defence Services in order for them to vacate the occupied frequency spectrum to be used for the next generation of mobile telephony and consequently the higher national growth of subscriber base. The spectrum available for mobile telephony has become in adequate due to the increasing demand of mobile services in the country. The work for Air Force network was started in 2006 and shall be completed by 2009-10. The Army and Navy component of the network comprising of 219 and 33 sites respectively throughout the country will be started in 2010-11. The components of these networks are DWDM equipments, IP-MPLS Routers, Carrier Ethernet based Router and Switches, IMS Equipments along with Network Operating Centres (NOC), Data Centres, Network Management Systems (NMS), Security and Synchronization devices along with back up media on Microwave & Satellite for some strategic locations. The time line for implementation of the project is three years. An amount of Rs.1500 crore has been provided in BE 2010-11 for Army and Navy network part of the project.

Annexure-A

UNIVERSAL SERVICE OBLIGATION FUND

RURAL TELEPHONY **OUTCOME BUGDET 2010-11** (Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcome	Processes/ Timelines	Remarks/ Risk factors
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	Complementary/ Extra Budgetary Resources				
1	Operation & Maintenance of VPTs	Operation and Maintenance of existing VPTs and those installed till November 2004	40						See Note 1
2	Replacement of MARR VPTs	Replacement of MARR VPTs to reliable technology and maintenance thereof	135						See Note 2
3	Provision of RCPs	Installation of Rural Community Phones in villages with population exceeding 2000, without having any PCOs and maintenance thereof.	5						See Note 3
4	VPTs in Uncovered Villages	Installation of VPTs in uncovered villages as per Census 1991, excluding villages with population less than 100 or lying in Naxalite areas/forests etc.	25			301	301	Sept-10	Most of the remaining VPTs are to be provided on DSPTs. [See Note 5]

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UNIVERSAL SERVICE OBLIGATION FUND

RURAL TELEPHONY **OUTCOME BUGDET 2010-11** (Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical outputs	Projected Outcome	Processes/ Timelines	Remarks/ Risk factors
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	Complementary / Extra Budgetary Resources				
5	Rural Household DELs installed between 1/04/02 and 31/03/2005	Maintenance of RDELs installed between 01/04/02 and 31/03/05.	10						See Note 5
6	Rural Household DELs installed between 1/04/05 and 31/03/07 (extended upto 31/03/2010)	Maintenance of RDELs installed b/w 01/04/05 and 31/03/07 and also those installed/to be installed between 1/04/07 and 31/03/2010.	240					Mar-10	See Note 6
7	Shared Infrastructure support (Towers and Mobile Services) -Phase-I	Setting up of 7871 infrastructure sites and provision of mobile services in rural and remote areas of the country.	95						See Note 7
8	VPTs in newly identified Uncovered Villages as per Census 2001	Installation of VPTs in newly identified uncovered villages as per Census 2001(not covered under S.No. 4 above).	65			17011	17011	Feb. 2011	See Note 8
9	Support for Rural Wireline Household DELs installed prior to 1.04.02	Subsidy support to BSNL for operational sustainability of rural wireline DELs installed prior to 01.04.02 in lieu of ADC being phased out	1400						See Note 9

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UNIVERSAL SERVICE OBLIGATION FUND

RURAL TELEPHONY **OUTCOME BUGDET 2010-11** (Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcome	Processes/ Timelines	Remarks/Risk factors
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	Complementary/Extra Budgetary Resources				
10	Wireline Broadband Connectivity in rural and remote areas	Provision of Broadband connectivity through Wireline	125			1,20,000 broadband connections & 1500 Kiosks	1,20,000 broadband connections & 1500 Kiosks	Mar-11	Dependent on the demand of the broadband connectivity in rural & remote areas. [See Note 10]
11	Shared Infrastructure support (Towers and Mobile Services)	Setting up and managing about 9,000 infrastructure sites and provision of mobile services in other rural and remote areas of the country (not covered under Sl. No. 7 above)	0			100 Towers	100 Towers	Mar-11	Scheme is under consideration of the Govt. [See Note 11]
12	Shared Infrastructure support (Towers and Mobile Services) - Phase-III	Setting up and managing about 5,000 'Micro Telecom Systems' in isolated and remote uncovered villages/clusters of villages having scattered population and provision of mobile services.	0			100 Towers	100 Towers	Mar-11	Scheme is under consideration of the Govt. [See Note 12]
13	Pilot Projects	Induction of new technological developments in rural areas	2.5			5	5	Dec-10	Deployment of pilot projects dependent on technology development. [See Note 13].

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UNIVERSAL SERVICE OBLIGATION FUND

RURAL TELEPHONY **OUTCOME BUGDET 2010-11** (Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2010-11			Quantifiable Deliverables/Physical Outputs	Projected Outcome	Processes/ Timelines	Remarks/Risk factors
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	Complementary/ Extra Budgetary Resources				
14	Renewable Energy	Installation of solar/solar -wind hybrid renewable energy solutions in at some shared Mobile infrastructure sites (Ph-I)	1.5			20 Sites	20 Sites	Dec -10	See Note 14
15	Solar Mobile Charging Stations	Support for mobile charging stations in 5,000 villages through TERI project of lighting a billion lives (LaBL).	0			1000 Villages	1000 Villages	Mar-11	See Note 15
16	Wireless Broadband Connectivity in rural and remote areas	Provision of Broadband connectivity to Block Headquarters on wireless.	215				500 Blocks	500 Blocks	Dependent on auction of 3G spectrum and rural broadband demand. [See Note 16]
17	Satellite broadband connectivity in rural & remote areas.	Provision of broadband connectivity to specified rural & remote areas on satellite media (where terrestrial connectivity is not feasible).	5			200 Connections	200 Connections	Mar. 2011	See Note 17

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UNIVERSAL SERVICE OBLIGATION FUND

RURAL TELEPHONY **OUTCOME BUGDET 2010-11** (Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2009-10 (fig. in crores)			Quantifiable Deliverables/ Physical Outputs	Projected Outcome	Processes/ Timelines	Remarks/Risk factors
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	Complementary/ Extra Budgetary Resources				
18	Optical Fibre Cable (OFC) Network in Assam service area.	Augmentation, creation & management of OFC Network with higher band width to SDHQ/Blocks in Assam.	26			20 Districts	20 Districts	Mar. 2011	For provision of Augmented OFC Network in Assam Agreement with BSNL is to be signed shortly. [See Note 18].
19	Optical Fibre Cable (OFC) Network in service areas other than Assam.	Augmentation, creation & management of OFC Network with higher band width to SDHQ/Blocks in service areas other than Assam.	10				25 Districts	25 Districts	See Note 19
Total			**2400**						

N.B

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

2. The financial outlay figures are estimated and subject to actual disbursement in arrears, based on timely submission of claims by USPs and number of facilities actually provided and/or working.

Notes:

1. **VPTs**: Agreements for O&M of VPTs were signed in March 2003 for the existing 502523 VPTs installed prior to 01.04.02. The O&M is also to be paid for VPTs installed upto Nov.2004.

2. **MARR VPTs**: Originally 1,86, 872 MARR VPTs were to be replaced and the same was reconciled to 1,82,766 in Aug, 2007 and again to 1,85,121 (47075+138046) by BSNL in October 2008. Financial outlay has been proposed in respect of replacement of MARR VPTs during the period Jan-Mar. 2010 and for maintenance of the existing Nos.

3. **RCP**: Originally 46,253 RCPs were to be provided by BSNL and Reliance. The same was reconciled to 43,409 (BSNL: 21978, RCL: 21431) in January 2008 and again to 40705 (BSNL: 21958, RCL: 18747) in October 2008 on account of availability of PCO facility. Financial outlay has been proposed for maintenance of existing RCPs and also those provided during Jan-Mar. 2010.

4. **VPTs in UNCOVERED VILLAGES**: Originally 66822 VPTs were to be provided under the scheme. However, reconciliation has been carried out by BSNL and the numbers of VPTs to be provided have been reduced by 4520. As per reconciled figures, 62302 VPTs are to be provided out of which 3938 VPTs are to be provided on DSPTs as against original figures of 14183. Claims for VPTs provided in Jan.-Mar. 2010 will also fall in 2010-11.

5. **RDELs installed between 1.4.02 and 31.3.2005:** The scheme covers maintenance of RDELs installed during the validity period of the Agreement i.e. 31.03.2010.

6. **RDELs installed from 1/04/05 to 31/03/07 (extended upto 31.3.2010)**: Scheme covers all RDELs installed/to be installed upto 31/03/2010 in the eligible 1685 SDCAs. The claims for RDELs installed during Jan. -Mar. 2010 shall fall in 2010-11.

7. **Mobile Infrastructure-Phase-I**: The total number of towers was reduced from 7871 to 7440. The No. of towers to be setup have been further reduced to 7387 as a result of dropping/addition of towers as on 31.12.2009.

8. **VPTs in newly identified Uncovered Villages**: Agreement has been signed on 27.02.2009 for installation of about 62443 VPTs. About 10-15% VPTs may have to be provided using DSPT.

9. **Rural Wireline DELs installed prior to 1.4.02**: The scheme provides subsidy support to the eligible operators for operational sustainability of Rural Wireline DELs installed prior to 1.4.02, for a period of 3 years w.e.f. 18.7.2008 with subsidy support of Rs.2000 crore per annum for the country in lieu of phasing out of ADC. A MOU for this purpose was entered into with M/s BSNL on 12-03-2009.

10. **Wireline Broadband Connectivity in rural and remote areas**: An Agreement was entered into with M/s BSNL on 20-01-2009 for provision of broadband connectivity to individual users and Govt. Institutions in rural and remote areas on wireline media.

11. **Shared Infrastructure support (Towers and Mobile Services)-Phase-II**: The scheme is under consideration of the Govt. No financial outgo is expected on the scheme during the financial year 2010-11.

12. **Shared Infrastructure support (Towers and Mobile Services)-Phase-III**: The scheme is under consideration of the Govt. No financial outgo is expected on the scheme during the financial year 2010-11.

13. **Pilot Projects**: Successful technology providers declared. MOU to be signed shortly.

14. **Renewable Energy**: The bids for the project are under evaluation.

15. **Solar Mobile charging stations**: The Agreement for setting up mobile charging stations in 5000 villages in the country is to be signed with TERI shortly. Financial outgo on the scheme during FY 2010-11 shall be reviewed in RE.

16**. Wireless Broadband Connectivity in rural and remote areas:** The scheme would cover provision of broadband connectivity to Block HQs. On wireless media.

17**. Satellite broadband connectivity in rural & remote areas:** The scheme is planned to provide broadband connectivity in rural and remote areas which do not have any terrestrial connectivity, on satellite media.

18**. Optical Fiber Cable (OFC) Network in Assam service area:** The Agreement for the scheme is to be signed with M/s BSNL shortly.

19**. Optical Fiber Cable (OFC) Network in service areas other than Assam:** Under the scheme N.E. & W.B. service areas are being taken up first. Tenders are to be floated shortly.

Abbreviations Used:

VPT: Village Public Telephone
MARRVPT: Multi Access Radio Relay VPTs
USP: Universal Service Provider
RCP: Rural Community Phone
ADC: Access Deficit Charge
TERI: The Energy Research Institute
DSPT: Digital Satellite Phone Terminal
DEL: Direct Exchange Lines

Annexure - B

TELECOMMUNICATION ENTINEERING CENTRE
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
A. Core Activities (2010-11)									
1	New Generic Requirements, Interface Requirements and Service Requirements	Preparations of new GRs/IRs		…		25			
2	Review of GRs/IRs	Revision of existing GRs/IRs		…		56			
3	Preparation of Test Schedule/Test Procedure	Preparation of Test Schedule		…		81			
4	Interface approvals of customer equipment	Certification to authorize use of equipment in telecom network		…		No target defined			
5	Certificate of approval			…		No target defined			

[Contd…]

TELECOMMUNICATION ENTINEERING CENTRE
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks /Risk Factors
1	2	3	4			5	6	7	8
			4(i)	4(ii)	4(iii)				
			Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
B. Ongoing Project Activities (2010-11)									
1	NGN Labs	To carry out testing and certification of NGN compliant CPEs and Terminals	…		…				
2	EMF and SAR Lab	For measurement of EMF and SAR values	…		…				
3	Attending meetings of Study Groups of ITU-T/R/D in foreign countries	To participate in standardization activities and to safeguard interest of India in ITU	…	7.74	…				
4	Membership Fee for International Forums	To participate in standardization activities and to safeguard interest of India in international forums	…						
5	N.E. Region	Satellite Based Broadband Network	…	0.26	…				
		Total	**…**	**8.00**	**…**				

Annexure - C

WIRELESS PLANNING CO-ORDINATION
Outcome Budget 2010-11

(Rs. in Crore)

S. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1	National Radio Spectrum Management and Monitoring System (NRSMMS)	Commencement of 1st year AMC and its monitoring		0.50		1. Commencement of 1st year AMC for NRSMMS and its monitoring 2. Making of spill over payment. 3. Upgradation of Software for ASMS etc.			
		Total		**0.50**					

Annexure - D

WIRELESS MONITORING ORGANISATION
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1	**<u>Tech. Schemes</u>** Creation of Project Implementation Unit (PIU)	To implement the schemes at S.No.3 & 4 given below		0.00		Salary & Office expense only, to be met from funds for scheme at sl.No.3.1	Timely implementation of schemes at S.No.3 & 4 given below	Subject to approval of the competent authority	Approval of the competent authority is being sought.
2	Augmentation of Training Facilities	To procure technical literature, software and hardware for training on certain digital communication systems		2.25		Procurement of technical literature, software and hardware development kits	Building expertise in Monitoring	Procurement of additional technical literature, hardware/ software to be taken up in the FY 2010-11	Subject to financial concurrence

[Contd…]

WIRELESS MONITORING ORGANISATION
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
3	**Expansion of Monitoring Facilities**								
3.1	Establishment of 6 additional WMS at Bhubaneshwar, Dehradun, Lucknow, Patna, Raipur & Vijayawada	To cover the uncovered states/cities		25.00		Additional 6 Wireless Monitoring Stations will be established	Uncovered states/ cities will be brought under monitoring coverage	To establish all the 6 WMS's in the 11th Five Year Plan.	Subject to expenditure approval by Telecom Commission to the procurement of technical infrastructure
4	Miscellaneous Expenses	Expenses other than M & E component		1.50			Implementation of above schemes	Within FY 2010-11	
				28.75					
5	Civil Works	Miscellaneous Civil works such as procurement of land, construction of office building, staff quarters and ancillaries		**13.61**		Procurement of land & Civil construction works	Housing of Monitoring establish-ments in their own buildings and staff quarters	Procurement of land & ongoing sanctioned civil construction works within 11th Five Year Plan	Subject to financial concurrence / materialization of allotment/ procurement of land and execution by CPWD
	Total			**42.36**					

Annexure - E

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks / Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1	Communication & Security Research and Monitoring	The scheme aims to build through indigenous R&D a national infrastructure comprising a CMS with secure connectivity and automated provisioning, to all TSPs and ISPs to strengthen the functions of the Law Enforcement, Agencies (LEA) of the country.							
1(a)	R&D for security management for law enforcement agencies: Centralized Monitoring System (CMS)	R&D component of the scheme primarily focuses on design, development and trials / validation of systems related to call interception, monitoring, analysis of social networking of target subscribers' data, end-to-end secured work flow etc. as required by various law enforcement agencies against misuse of country's voice & data communication network by anti-social elements.		12.00		Design, dev. and piloting CMS for LEAs and setting up of a centralized monitoring centre with requisite infrastructure.		Incorporation of 3G services in basic software modules and demo with one (PSU) service provider. Integration of ISP interception with CMS software and demo of the concept	

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1(b)	Progressively scaled up infrastructure creation for CMS national roll out	Progressive scaling up and build-up of the facilities in an environment of multi-technology, multi vendor and multi-service providers to the requirements of LEAs. The actual scaling up of the infrastructure creation as part of the national roll-out will, however, commence only after getting CCEA approvals.		185.10		To build up the infrastructure for a National roll-out of the Centralized Monitoring System (CMS)		Data Center infrastructure built up for housing Phase 1 hardware	The actual scaling up of the infrastructure creation as part of the National roll-out will, however, commence only after getting CCEA

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
2	Technologies for North Eastern Region	NE region has special requirements because of its topology, terrain, as compared to the rest of the country and also because of the demographics of a scattered population over the region. These requirements call for feasibility study of appropriate technologies for such region, proof-of-concept where such technologies can be used in the region, field trials, specific research and development work in certain cases and adaptation/ up gradation of developed technologies.		19.00		IMS compliant Call Session Control IMS compliant Media Resource Control / Processing Functions Distributed Soft switch Implementation Implementation of GSM interfaces in soft switch New deliverables may be added depending on the requirements		Q4:Design, development and testing of IMS Call Session Control Q3 Design, development and testing of Media Resource control/processing functions Q4: Design, development of distributed soft switch Q4: Implementation of GSM interfaces on soft switch	

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
3	Rural Technologies	This scheme envisages various deliverables with Rural focus, to facilitate improving Rural teledensity and also to provide Broadband connectivity for bridging the digital divide between the Urban & Rural India.		15.00		• Shared GSM Radio Access Network (SG-RAN) • VoIP-based rural broadband access • Spectrum Sharing in Shared Active Infrastructure • 3 GPP Interfaces to BSS • Data Rural Application Exchange (D-RAX)		Q2: Validation and trials Q4:Commercialization Q4: Point-to-multipoint enhancements to broadband access node Q3: System Development and internal validation Q4: Trials Q2: Proof of concept including GPRS interface Q4: Integration with BSS Q2: Requirement design and top level architecture for service blade hardware and software Q4: Porting of OS and protyping of one service	The implementation plan for the new deliverables planned during the year is being worked-out.

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
4	Broadband Technologies	The Penetration of Broadband services in India is poised for a huge growth primarily due to the Governments initiative on increasing the Broadband connections, building a National Knowledge Network, to bring tele services to the rural population etc. The scheme focuses on research and development of packet-based broadband technology for access and telecommunication transport systems. Different deliverables relate to various transmission media such as optical, wireless, copper etc.		10.00		• MOES (Multi-port Optical Enterprise Solution); support for wireless LAN Broadband CPE (ONT) with 802.11n • Broadband CPE (Customer Premises Equipment) with 3G Wireless fall-back • Terra Bit Router		Q4:Development of terminal and integration test commencement Q3: Delivery of broadband CPE with wireless and validation commencement Q2: Design and development of hardware, firmware and driver software (HSDPA) Q4: Architecture and Design of router	The implementation plan for the new deliverables planned during the year is being worked-out.
5	Campus Infrastructure	Construction of residential facilities for CDOT staff at Delhi R&D campus area, to further enhance environment for R&D		4.40		Residential facility		Approvals awaited	

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks / Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
6	C-DOT Alcatel Research Centre (CARC) (Cabinet Approved Schemes)	It is a Cabinet approved Joint Venture program to conduct research and development in wireless broadband and supporting technologies. Under the 11th Five-year Plan, this joint venture program will broad base its programs, including the Research & development activities in the area of Broadband Wireless.		13.00		Support for developed technology and R&D services		Support for developed technology of WiMAX CPEs; development of Wi-MAX Base stations and 3G Femto-cell for Alcatel-Lucent, under contracted R&D services.	
7	Strategic & Enterprise Solutions	The scheme aims at development of applications and solutions, for Business Enterprises and Strategic Sectors, which will be an important source of revenue for C-DOT.		15.00		• Commercialization of Clearing House (CLH) application • C-DOT's ATM-based system customization for multiple Defense applications		Q2:CLH operations expansion to include two more regions of BSNL Q4: CLH software update for new TAP formats and interworking with other clearinghouses	

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks / Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
7						• Fully dedicated and secure network for Government, Defense and security agencies (renamed as 'Secure and • Dedicated Communication Network' (SDCN)) • Customized NMS Solutions		Q4: Customization for different naval projects Q2: Development of secure CPE Q4:Rollout of secure network Q4:Development of customized solution as and when business opportunities arise	
8	Basic Research on Telecom Network & Enabling Technologies/ Study/ Pilot Projects	This scheme helps C-DOT to maintain its position of excellence in R&D, by conducting basic research as well as conducting studies and setting up pilots in new/green field areas in telecom enabling technologies and networks.		5.00		Unified IN Reconfigurable and power scalable radio 10Gb GPON WDM PON Optimized spectrum utilization Additional projects may be taken up as per requirements		Q4: Study & feasibility reports / prototypes wherever applicable	

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks / Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
9	Enhancements/ New Features/ Upgradation/ Adaptation/ Technical support for developed technologies	This scheme focuses on R&D efforts related to development /and technology support, required for enhancements, evolution, feature addition, scalability, value addition and customization for changing requirements. These are envisaged for developed / deployed technologies of C-DOT. Major activities under this scheme include enhancements of existing deployed technologies, namely, MAX, RAX, NMS (local, TAX, GSM), Call Interception System, IN, NGN / MAX-NG, GPON etc., for feature addition, component obsolescence, bug-fixing with new releases, etc.		30.50		Major activities under this scheme include enhancements of existing deployed technologies, namely, MAX, RAX, NMS (local, TAX, GSM), Call Interception System, IN, NGN / MAX-NG, GPON etc., for feature addition, component obsolescence, bug-fixing with new releases, etc.		Q4: The support activities for enhancements is ongoing	
		Total- CDOT		**309.00**					

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks / Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1	DoT Scheme: Setting up of Telecom Testing and Security and Certification Centre (TETC)	Setting up of a Research Centre for creating a test bed for testing telecom equipment		2.00		Assisting Government in telecom policy and regulation	Ensuring security in telecom. Referral agency for technology adoption and Security evaluation and surveillance	Ongoing work	

Note: DoT project of Setting up of TETC has been made a part of CDOT.

Annexure - F

TELECOM REGULATORY AUTHORITY OF INDIA
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	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, 1999 including carrying out of consultative studies on regulatory issues and provision of training	…	4.00	…	(a) Consultative studies/ workshops on regulatory issues (b) Provision of training for TRAI officials on technical and regulatory issues	The proposed studies will help TRAI in formulating its recommendations and in other regulatory functions To meet the training needs of TRAI officials	To be completed during 2010-11	
2	Purchase of Land & Building	To obtain own office premises	…	7.00	…	The Proposed land has been identified and necessary formalities are being taken up with DDA for transfer of land.	At present TRAI is paying exorbitant rents for its office. By having its own office premises, there would be savings on this count in the long run	…	
Total			…	**11.00**	…				

Annexure - G

TELECOM DISPUTES SETTLEMENT & APPELLATE TRIBUNAL [TDSAT]
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1	Upgradation of TDSAT Reference Library	Purchase of books and other related materials to strengthen the Library		0.10		-	-	Ongoing activity	-
2	Study Tours for familiarizing with the telecom regulatory environment / training	Countries to be visited by the Hon'ble Chairperson & Members will be decided in the first quarter and thereafter tour will be undertaken accordingly. Training programme for officers will be identified.		0.80		-	-	Ongoing activity	Since the itinerary depends on the action taken in the first quarter targets have to be fixed accordingly for the next three quarters
3	Holding of Seminars on Telecom Disputes & Settlement	Places of seminars will be identified in various states of the country in the first quarter and thereafter action will be taken accordingly		0.40		-	-	Ongoing activity	Action taken would depend on the identification of places in the first quarter, targets have to be fixed accordingly for the next three quarters
		Total		**1.30**					

Annexure - H

BHARAT SANCHAR NIGAM LIMITED
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11 (IEBR)	Quantifiable Deliverables Physical Outputs	Projected Outcome	Processes/ Timelines	Remarks / Risk Factors
1(a)	GSM Mobile Capacity (Lakh lines)	To provide DELs on demand	Annual Outlay for 6661 cr.	Total 220 lakh			
			1st Qtr. 666 cr.	1st Quarter 55 lakh			
			2nd Qtr. 1332 cr.	2nd Quarter 55 lakh			
			3rd Qtr. 1998 cr.	3rd Quarter 55 lakh			
			4th Qtr. 2664 cr.	4th Quarter 55 lakh			
1(b)	Wireline + WLL Capacity (Lakh lines)	To provide DELs on demand	Annual Outlay for 1876 cr.	Total 0 lakh			
			1st Qtr. 188 cr.	1st Quarter 0 lakh			
			2nd Qtr. 375 cr.	2nd Quarter 0 lakh			
			3rd Qtr. 563 cr.	3rd Quarter 0 lakh			
			4th Qtr. 750 cr.	4th Quarter 0 lakh			
2	Broadband Capacity (Lakh lines)	To provide Multiplay i.e. voice, video & data on demand and allied services	Annual Outlay for 2328 cr.	Total 25 lakh			
			1st Qtr. 233 cr.	1st Quarter 6.25 lakh			
			2nd Qtr. 466 cr.	2nd Quarter 6.25 lakh			
			3rd Qtr. 698 cr.	3rd Quarter 6.25 lakh			
			4th Qtr. 931 cr.	4th Quarter 6.25 lakh			
3	TAX Capacity (Kilo Circuits)	To provide connectivity for additional exchange equipment & provide POIs on demand	Annual Outlay for 446 cr.	Total 1200 KCTs			
			1st Qtr. 45 cr.	1st Quarter 300 KCTs			
			2nd Qtr. 89 cr.	2nd Quarter 300 KCTs			
			3rd Qtr. 134 cr.	3rd Quarter 300 KCTs			
			4th Qtr. 178 cr.	4th Quarter 300 KCTs			
4	OFC (RKMs)	To provide Transmission network for new exchange equipment & provide Bandwidth on demand	Annual Outlay for 3580 cr.	Total 30,000 RKMs			
			1st Qtr. 358 cr.	1st Quarter 7500 RKMs			
			2nd Qtr. 716 cr.	2nd Quarter 7500 RKMs			
			3rd Qtr. 1074 cr.	3rd Quarter 7500 RKMs			
			4th Qtr. 1432 cr.	4th Quarter 7500 RKMs			
		Total - IEBR	**14891.00**				

Annexure - I

MAHANAGAR TELEPHONE NIGAM LIMITED
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1	Switching (including TAX/Tandem/NGN) and access lines (including CDMA /WLL handsets, GSM) in existing and new areas	Increase in Net Switching Capacity			629.50	Addition of 1000K lines in GSM network	Expansion of 2G/3G GSM network	Dec-2010	Delay in supplies by supplier, AT problem in site acquisition and finalization of tender/ orders. Delay in permission for digging/ laying of ducts for cables
2	TAX/ Tandem/NGN					Addition of 64K lines	Expansion of NGN	Jan-2011	
3	Deployment of DSLAM/FTTH ports	Increase in broadband & FTTH ports				Addition of 500K ports	Increase in broadband capacity	Dec-2010	
4	Optical Fibre Cable	Laying of OFC				Laying of 120K Fibre	Expansion of Fibre network	-	
5	IT related services	IT related Projects			74.60	Convergent billing, FMPS, Certifying Authority etc.	Completion of various IT related projects	Dec-2010	
6	Expansion in New Services Areas abroad and National acquisitions	Service in Overseas Operations			500.00	Laying of Submarine Cable		Dec-2010	
		Total			**1204.10**				

Annexure - J

ITI LIMITED
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
A	New Schemes								
1	NGN (IP TAX)	Establishment of manufacturing infrastructure & procurement of test equipment		1.00				2nd Quarter	
2	Wi-MAX/Wi-MAX CPEs	Establishment of manufacturing infrastructure & procurement of test equipment						2nd Quarter	
3	MNID/NPR Project	Procurement of infrastructure equipments for manufacture of smart cards for the project						1st Quarter	
4	Upgradation of SMT line at Bangalore Plant	Procurement of capital goods for the project						1st Quarter	
		Total		**1.00**					

Annexure - K

DOT Schemes
Outcome Budget 2010-11

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2010-11			Quantifiable Deliverables/ Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
			4						
			4(i)	4(ii)	4(iii)				
1	2	3	Non-Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources	5	6	7	8
1	Undersea Cabling between Mainland and Andaman & Nicobar (UMA&N)	To connect the Mainland with the Island of A&N		161.84		Laying of the undersea cable	Better connectivity		
2	Technology Development & Investment Promotion (TDIP)	Providing technical assistance for promoting investment in the manufacturing sector, export of telecom equipments, Organizing Telecom Events, Review the progress of TCoE		3.00		Providing technical assistance for promoting investment in the manufacturing sector, export of telecom equipments to the developing/ underdeveloped countries, organizing Telecom events & other seminars and Review the progress of Telecom Centers of Excellence (TCoE)	To Project India as the next hub for telecom equipment manufacturing and showcase the telecom growth in the country	Ongoing activity	
3	OFC based Network for Defence Services (DS) (Army & Navy component)	To setup alternate network for Defence Services for releasing spectrum		1500.00		Laying of Optical Fibre Cable for Defence Services for providing alternate network	Alternate network on release of spectrum by Defence Services	Ongoing work	

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 1994

NTP 1994's thrust was on universal service and qualitative improvement in telecom services and also, opening of private sector participation in basic telephone services. NTP 1994 defined certain important objectives including availability of telephone on demand, provision of world class services at reasonable prices improving India's competitiveness in global market and promoting exports. Recognizing the fact that resources for achieving these targets would not be available only out of Government sources and it was, therefore, acknowledged that private investment and involvement of the private sector was required to bridge the resource gap.

The private sector participation in the telecommunication services sector was introduced in a phased manner from the early 90's initially for Value Added Services such as Paging Services and Cellular Mobile Telephone Service (CMTS) and thereafter for Basic Telephone Services (BTS). After a competitive bidding process in 1995, licenses were awarded to 8 CMTS operators in 4 metros, 14 CMTS operators in 18 State circles, 6 BTS operators in 6 State circles and 2 paging operators in 27 cities and 18 State circles. VSAT Services were also liberalized for providing data services and 14 operators were issued licenses. The Government also announced the policy for Internet Service Provision (ISP) by private operators and commenced licensing of the same.

3.3 New 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[19], wherever justified, into Public Teleinfocentres 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.

3.4 Opening up of the sector

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.

3.5 Unified Access (Basic and Cellular) Services Licence Regime

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 :

[19] Public Call Offices

(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.

3.6 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:

Table 1: Broadband Targets

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. For providing impetus to the broadband connectivity, the year 2007 was marked as the **"Year of the Broadband"**.

3.7 Foreign Direct Investment

FDI in telecom has increased manifold in recent years. FDI inflow is mainly in the telecom services as compared to the manufacturing sector. The Government vide Press Note 3/2007 read with Press Note No.2/2009, 3/2009 & 4/2009 had (2005 series) dated 3.11.2005, has enhanced Foreign Direct Investment (FDI) limit from 49% to 74% in certain telecom services subject to specified conditions. Both Direct and Indirect Foreign Investment in the licensing company shall be counted for the purpose of FDI ceiling.

Telecommunication is one of the sectors attracting highest FDI equity inflow in the country as is evident from the table given below:

SECTORS ATTRACTING HIGHEST FDI EQUITY INFLOWS

Amount Rupees in crore (US$ in million)

Rank	*Sector*	*2006-07 (April-March)*	*2007-08 (April-March)*	*2008-09 (April-March)*	*2009-10 (April-November '09)*	*Cumulative Inflows (April '00 - November '09)*	*% age to total Inflows (In terms of rupees)*
1.	**SERVICES SECTOR** (financial & non-financial)	21,047 **(4,664)**	26,589 **(6,615)**	28,411 **(6,116)**	16,566 **(3,438)**	101,019 **(22,687)**	**22 %**
2.	**COMPUTER SOFTWARE & HARDWARE**	11,786 **(2,614)**	5,623 **(1,410)**	7,329 **(1,677)**	2,763 **(575)**	42,259 **(9,529)**	**9 %**
3.	**TELECOMMUNICATIONS** (radio paging, cellular mobile, basic telephone services)	2,155 **(478)**	5,103 **(1,261)**	11,727 **(2,558)**	10,811 **(2,223)**	39,179 **(8,600)**	**8 %**
4.	**HOUSING & REAL ESTATE**	2,121 **(467)**	8,749 **(2,179)**	12,621 **(2,801)**	10,565 **(2,189)**	34,348 **(7,701)**	**7 %**
5.	**CONSTRUCTION ACTIVITIES** (including roads & highways)	4,424 **(985)**	6,989 **(1,743)**	8,792 **(2,028)**	8,380 **(1,754)**	30,557 **(6,945)**	**7 %**
6.	**POWER**	713 **(157)**	3,875 **(967)**	4,382 **(985)**	5,994 **(1,238)**	20,006 **(4,428)**	**4 %**
7.	**AUTOMOBILE INDUSTRY**	1,254 **(276)**	2,697 **(675)**	5,212 **(1,152)**	4,499 **(934)**	19,566 **(4,322)**	**4 %**
8.	**METALLURGICAL INDUSTRIES**	7,866 **(173)**	4,686 **(1,177)**	4,157 **(961)**	1,485 **(309)**	12,990 **(3,032)**	**3 %**
9.	**PETROLEUM & NATURAL GAS**	401 **(89)**	5,729 **(1,427)**	1,931 **(412)**	1,084 **(219)**	11,261 **(2,612)**	**2 %**
10.	**CEHMICALS** (other than fertilizers)	930 **(205)**	920 **(229)**	3,427 **(749)**	1,000 **(209)**	10,567 **(2,343)**	**2 %**

Source: DIPP website

3.8 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

- Achieve a telecom subscriber base of 600 million and a rural teledensity of 25% by 2012.

- To provide telephone connection on demand across the country at an affordable price.

2. **Rural Telephony**

- One phone per two rural household by 2010 (about 100 million rural connections).
- For Rural Telephony the mobile infrastructure created under USO will be shared amongst at least three service providers
- To support the development of general telecom infrastructure in rural areas, pilot projects would be undertaken under USOF.

3. **Broadband**

- Broadband coverage for all secondary and higher secondary schools, Public Health Centres, Gram Panchayats during 11th Plan (2007-2012).
- Achieve a Broadband coverage of 20 million and Internet Connections of 40 million during the 11th Plan.

4. **Manufacturing & R&D**

- Making India a hub for telecom manufacturing by facilitating more and more telecom specifics Special Economic Zones (SEZs)[20].
- Telecom Equipment and Services Export Promotion Council (TEPC) has been set up for providing platform for export promotion of telecom equipment and services.

[20] Special Economic Zones

Chapter – IV
Review of Performance

A. Department of Telecommunication

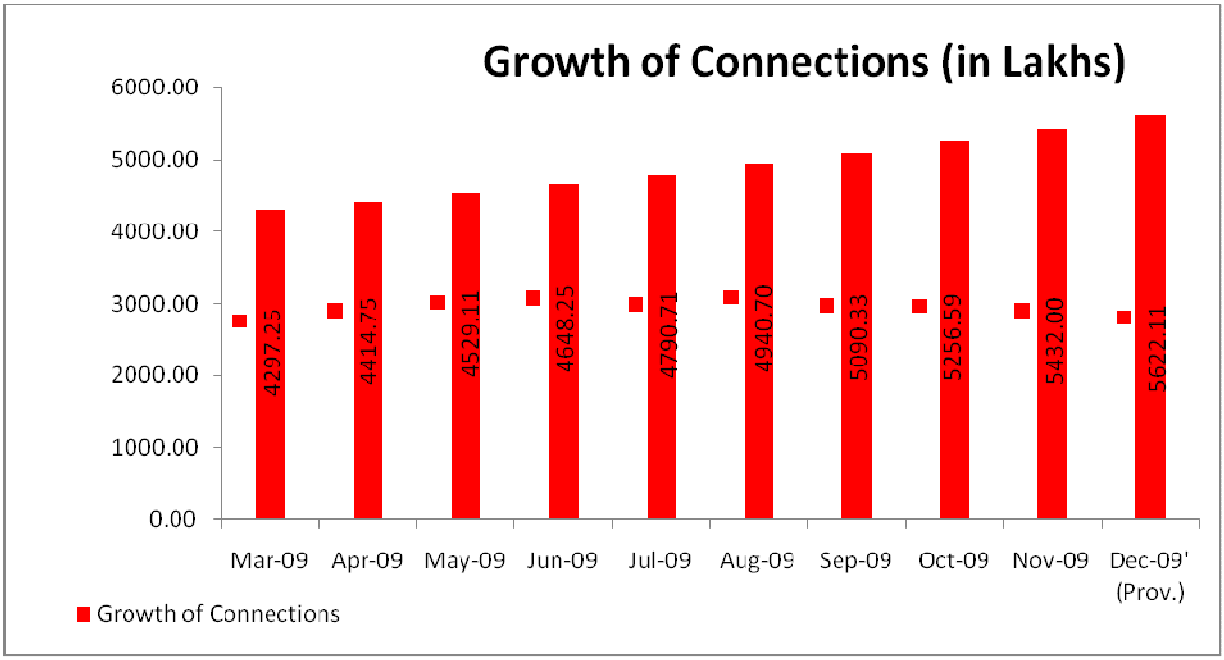
4.1 Overview of the Telecom Sector

Globally, in recent years, the telecommunication industry has experienced high growth, as a result of rapid and innovative technology developments, culminating into an increasingly competitive and networked world. The same is true of growth in the telecommunication sector in India also and telecommunication is now accepted as a basic infrastructure contributing to the growth of national economy.

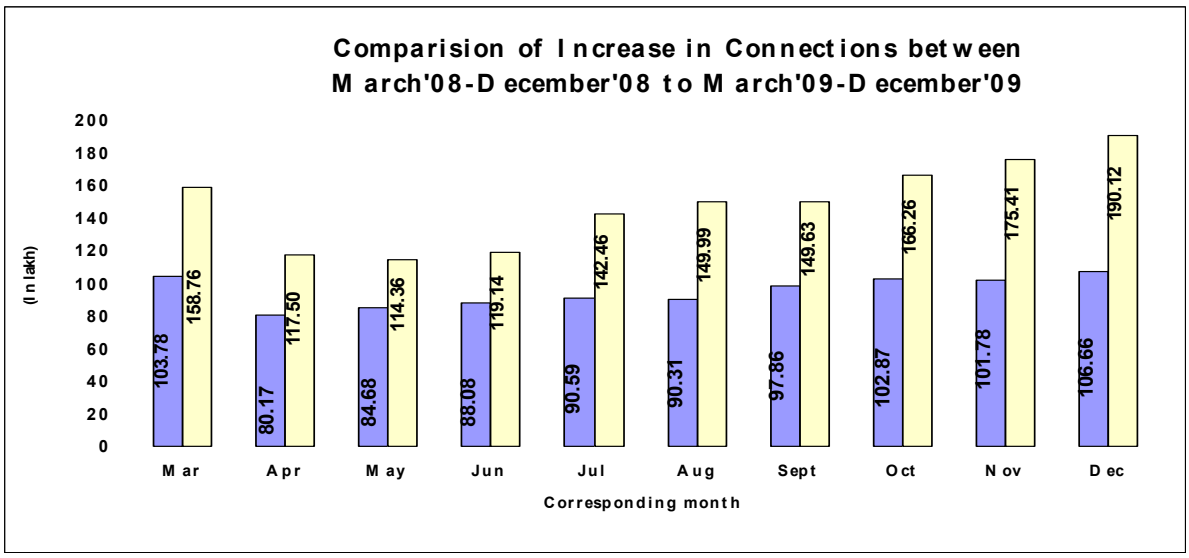
Telecommunication is the key infrastructural input required for the rapid growth and modernization of various sectors of the economy. It has contributed significantly to the enormous growth of Information Technology (IT) and Information Technology enabled services (ITES). Acknowledging the same, policy initiatives of the Government have been focused on bringing complete transformation in the sector.

4.1.1 Network Expansion

During December 2009, a total of 190.12 lakh telephones have been added, increasing the number of phones to 5622.11 lakh as on December 31, 2009. The additions during December 2009 have increased by 78.25% over the number of additions (106.66 lakh) during the same month last year. A point-to-point comparison (December 2008– December 2009) shows an increase of 46.11% in the number of telephones. The exponential growth in the telecom sector in India has been led by the growth in the wireless/mobile telephony. The share of wireless phones in the total number of phones is 93.41% as on December 31, 2009 as against 90.15% as on December 31, 2008. The graph below indicates the number of connections added in each of the months during the year 2009-10.



A month to month comparison between March 2008 - December 2008 and March 20098 – December 2009 given below indicates that the number of connections added in each month for the year 2009-10 is consistently higher than that of 2008-09, thereby indicating the tremendous growth performance as well as potential of the Indian telecommunications sector.

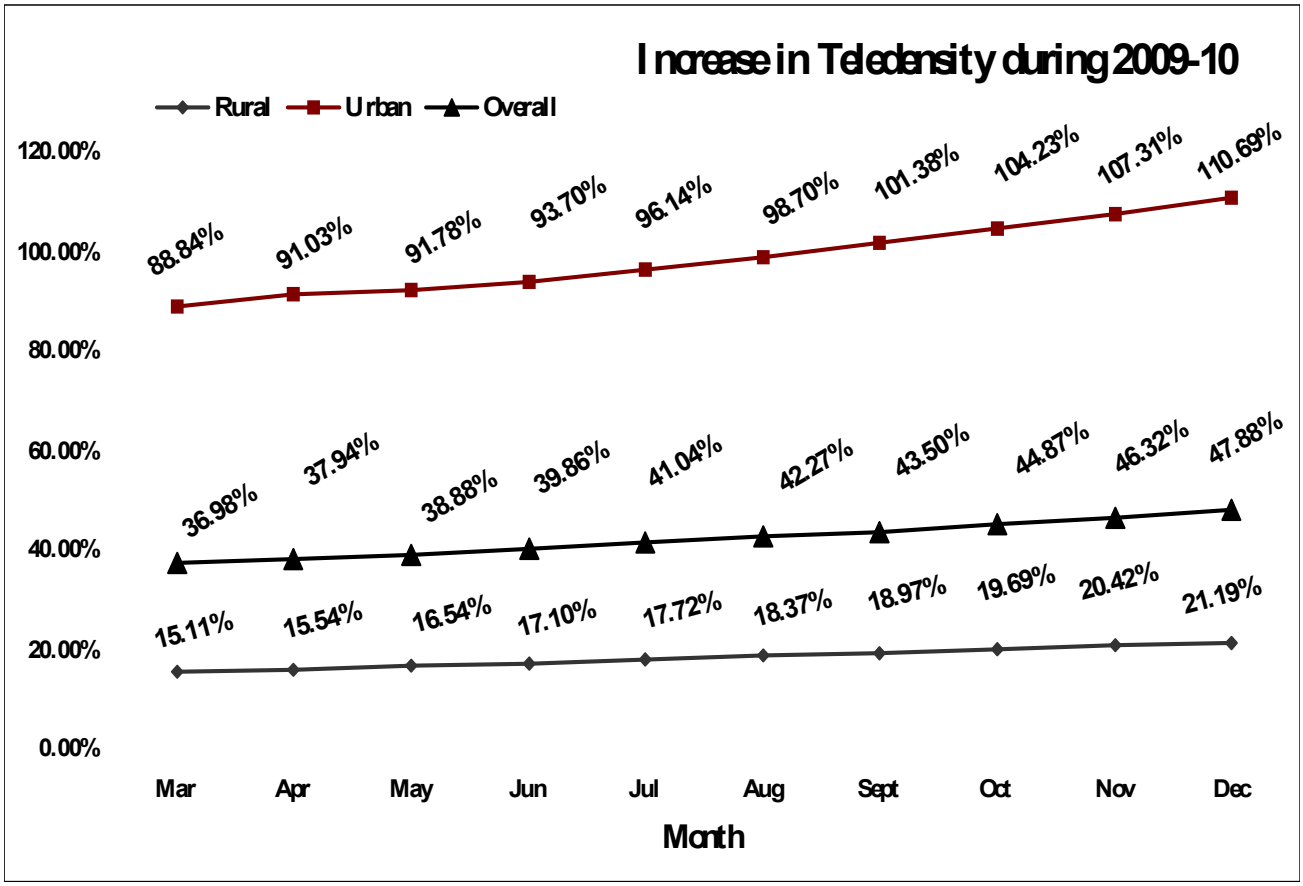


4.1.2 Teledensity

The teledensity, which was 36.98% as on 31st March, 2009 now stands at 47.88% as on 31st December 2009. There has been considerable improvement in the rural teledensity during 2009-10 and it increased from 15.11% at the end of March 2008 to 20.69% at the end of December 2009. The urban teledensity increased from 88.84% to 110.69% during the period. Month-wise growth of teledensity from March 2009 to December 2009 is shown below:

Teledensity			
Year 2009-10	Rural	Urban	Overall
Mar	15.11%	88.84%	36.98%
Apr	15.54%	91.03%	37.94%
May	16.54%	91.78%	38.88%
Jun	17.10%	93.70%	39.86%
Jul	17.72%	96.14%	41.04%
Aug	18.37%	98.70%	42.27%
Sept	18.97%	101.38%	43.50%
Oct	19.69%	104.23%	44.87%
Nov	20.42%	107.31%	46.32%
Dec	21.19%	110.69%	47.88%

Graphical representation of the increase in teledensity is shown below:



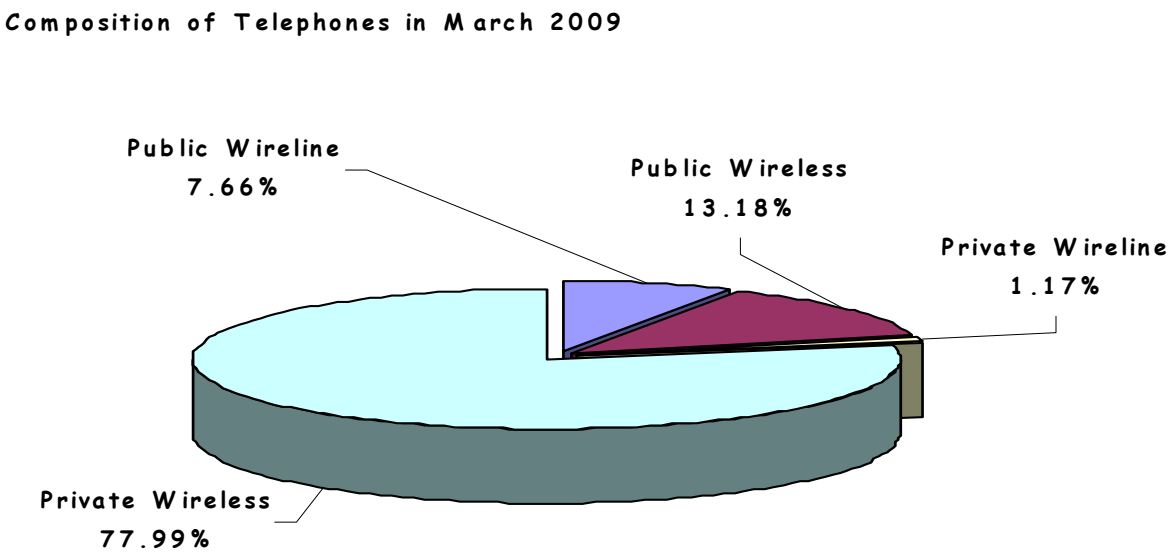
4.1.3 Trends in the composition of telephones (Public vs. Private):

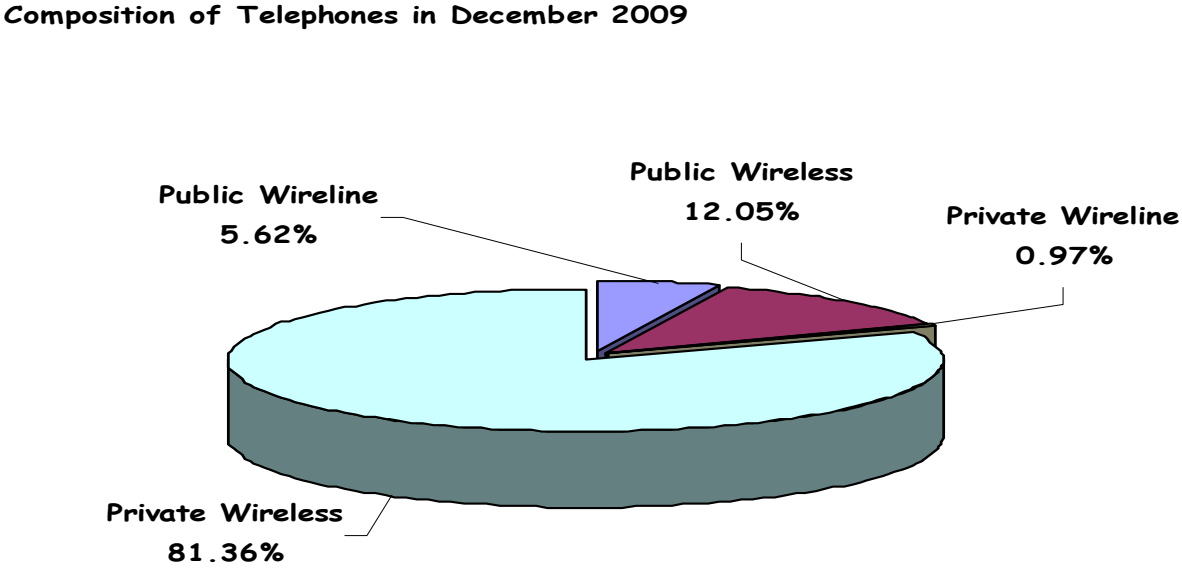
Operator-wise classification reveals that PSUs' still have a large share of nearly 85.20% in the wireline segment. Of this, the share of BSNL is 75.80%. Private operators, on the other hand have a share of 87.11% in the wireless segment. Bharti Group has the highest share of 22.60% in the wireless segment followed by Reliance Group (17.9%) and Vodafone Essar Group (17.4%). PSUs' contribute 12.9% in this segment.

The public sector witnessed an increase of 20.13 lakh phones whereas the private sector achieved an addition of 169.99 lakh phones during December 2009. For the fiscal year April 2009 to December 2009, the no. of additions by the public sector was 97.77 lakh as against 1227.09 lakh by the private sector. The share of private sector in the number of telephones has gone up to 82.33% (4628.88 lakh) in December 2009 while the share of public sector is pegged at 17.67% (993.24 lakh).

As far as the technology is concerned, the preference for use of wireless telephony continues. This is seen in the rising share of wireless phones, which has increased from 91.17% (3917.60 lakh) as on March 31, 2008 to 93.41% (5251.47 lakh) as on December 31, 2009.

The graphical representation of the compositional changes in the telecom sector is shown in the following pie-charts:





Major Highlights for Telecom Sector for December'09									
S.No.	Description		Position at the End of				%age Growth during		
			March'09	November'09	December'08	December'09	Month	Current Year	Yearly
1	2		3	4	5	6	7	8	9
1	Phones (In Lakh)	Total	4297.25	5432.00	3847.92	5622.11	3.50%	30.83%	46.11%
		Wireline	379.65	371.56	378.98	370.64	-0.25%	-2.37%	-2.20%
		Wireless	3917.61	5060.44	3468.94	5251.47	3.78%	34.05%	51.39%
		Public	895.46	973.11	834.51	993.24	2.07%	10.92%	19.02%
		Private	3401.79	4458.89	3013.41	4628.87	3.81%	36.07%	53.61%
		Rural	1235.13	1680.58	1070.29	1745.79	0.35%	36.54%	57.57%
		Urban	3062.12	3751.42	2777.63	3876.32	4.91%	28.53%	41.69%
2	Teledensity	Overall	36.98%	46.32%	33.23%	47.88%	3.37%	29.48%	44.09%
		Public	7.71%	8.30%	7.21%	8.46%	1.92%	9.72%	17.40%
		Private	29.27%	38.02%	26.02%	39.43%	3.70%	34.70%	51.52%
		Rural	15.11%	20.42%	13.13%	21.19%	0.24%	35.47%	55.90%
		Urban	90.76%	107.31%	81.01%	110.69%	4.72%	23.82%	38.72%
3	%age share of	Public	20.84%	17.91%	21.69%	17.67%	-	-	-
		Private	79.16%	82.09%	78.31%	82.33%	-	-	-
		Rural	28.74%	30.94%	27.81%	31.05%	-	-	-
		Urban	71.26%	69.06%	72.19%	68.95%	-	-	-
4	Switching Capacity (In Lakh) *	Public	1103.68	1174.74	1047.01	1174.74	0.00%	6.44%	12.20%
5	Village Public Telephones [VPTs] *	Public	549294	561182	531693	561182	0.00%	2.16%	5.55%
6	PCOs (In Lakh) *	Public	20.89	19.42	21.07	19.42	0.00%	-7.04%	-7.82%
7	OFC Route kms *	Public	609223	628946	580858	629005	0.01%	3.25%	8.29%
8	TAX Lines (In Lakh) *	Public	88.33	88.36	87.52	88.36	0.00%	0.04%	0.96%
	* Of November 2009								

4.1.4 Rural Telephony

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

- Providing telephones in remaining unconnected villages is a component of the flagship programme "Bharat Nirman". Bharat Sanchar Nigam Limited (BSNL) has been awarded the work for providing Village Public Telephones (VPTs) in all the remaining 66,822 (nos. revised to 62302) uncovered villages by November 2009 with support from Universal Service Obligation Fund (USOF). As on 31st December 2009 VPTs have been provided in 61186 villages. Rural teledensity stands at 21.19% as on 31st December 2009.

- To promote reliable connectivity, 184521 MARR VPTs have been replaced with landline/FWT VPTs upto 31.12.2009. The remaining MARR VPTs shall be replaced during the year 2009-10.

- For providing 40,705 Rural Community Phones (RCPs) agreements have been signed with BSNL and Reliance Communication Ltd. and as on 31.12.2009, 40,694 RCPs have been provided and only a small number of 11 RCPs remain to be installed.

4.1.5 Broadband

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

- There are about 7.98 million broadband subscribers in the country as on 31.12.2009 covering about 4044 cities,5431 block headquarters, 613 district headquarters covering about 1,06,559 villages. Out of about 2.50 Village Panchayats about 32% (i.e. 79,110) Village Panchayats are broadband enabled. Additional 1.25 lakh Panchayats are planned to be broadband enabled by March 2011.

- Various initiatives taken by the Government for faster rollout of the broadband services in the country *inter alia*, are :

- With the aim to provide e-governance and data services to rural masses, Indian Telegraph Act, 1885 has been suitably amended to enable provision of USOF support for provision of Broadband connectivity to rural and remote areas.
- Guidelines for Broadband Wireless Access (BWA) Services have also been issued. Introduction of BWA Services will enhance the penetration as well as growth in broadband subscriber.
- USOF is providing subsidy support for provision of wireline broadband connections at village level from about 28000 rural telephone exchanges spread across the country. This scheme envisages 8,61,459 broadband connections to individual users and Government Institutions over a period of five years i.e.by 2014. The subsidy disbursement is for broadband connections, Customer Premises Equipment (CPE), Computer/computing devices, setting up of broadband kiosks for public access. The estimated subsidy support is about Rs 1500 crore.
- It is proposed to provide wireless broadband connectivity to about 5000 Blocks through wireless broadband under Phase-II of this project at a cost of Rs 15 crore. This project is also being supported by Department of Information Technology (DIT) with a funding of Rs 550 crore.
- USOF is also working on a scheme for providing subsidy support for wireless broadband active infrastructure such as BTS, by utilizing the passive infrastructure available with telecom service providers. This scheme would provide broadband coverage to about two lakh villages and the rest of the villages will be covered in subsequent schemes. This scheme would be taken up after the BWA and 3G spectrum auction process is completed.
- USO is working on a scheme that would cover the provision of satellite broadband connectivity in 5000 villages which do not have any terrestrial connectivity.
- With a view to provide sufficient back-haul capacity to integrate voice and data traffic from the access net work in rural areas i.e. villages to their core net work, USOF has taken up an initiative to strengthen the OFC net work in rural and remote areas. This scheme considers OFC net work augmentation between the block headquarters and district headquarters. Assam service area has been taken up first for implementation.
- A programme for deployment of wireless broadband using broadband wireless access for providing last mile connectivity is being implemented by BSNL. Under this project it has been planned to provide wireless broadband connectivity to 1000 rural blocks through wireless broadband at a cost of Rs 225 crore out of which DIT is providing Rs 160 crore. These 1000 base stations would provide broadband coverage to about 11500 rural Common Service Centres (CSCs) for e-governance solutions.

4.1.6 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.

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

- 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) with effect from 1-1-2006.

- Entry fee for NLD/ILD licenses was reduced to Rs. 2.5 Crore and consequently the number of NLD licenses increased to 30 and ILD licenses to 25.

- Lease line charges have been reduced to make the bandwidth available at competitive prices to facilitate growth in IT enabled services. To promote the growth of IPLC (International Private Lease Circuit) segment, the Government has also introduced a new category of license viz. "Resale of IPLC" services license w.e.f. 24.09.2008.

In order to further enhance the penetration of access services for rapid expansion of tele-density, it has also been decided that the existing private UAS Licensees may be permitted to expand their existing networks by using alternate wireless technology i.e. the present UAS Licensee who is using GSM technology for wireless access may be permitted to use CDMA technology and vice-versa. The spectrum for the alternate technology, CDMA or GSM (as the case may be) shall be allocated in the applicable frequency band subject to availability after payment of prescribed fee.

4.1.7 Telecom Equipment Manufacturing

The Government has taken a number of initiatives to lower custom/excise duties on telecom related equipments. Specified equipments have been fully exempted from customs duty. Mobile phones have been exempted from Customs duty, Excise duty/CV taxes. 100% FDI is permitted for manufacturing sector under the automatic route.
Major investments in the telecom manufacturing sector till December 2009 are detailed below:

Sl. No.	Company	Location	Project Name	Amount Invested /Proposed
1.	Ericsson	Jaipur	Manufacture of GSM Base Stations & Mobile Switching equipment	US $ 450 Millions
		Chennai	R&D Facility, Global Service Delivery Centre	
		Gurgaon	R&D Facility, Global Service Delivery Centre	
2.	Elcoteq	Bangalore	Telecom Manufacturing	US $ 100Million; $18 million already invested
3.	LG	Pune & Noida	Mobile Handsets etc	US $ 12 million and US $23 million (expansion)

4.	Nokia	Chennai	Mobile Handsets Manufacturing	US $ 200 Million (US $ 75 million during 2008
5.	Samsung	Manesar, Gurgaon	Mobile Handsets Manufacturing	US $ 15 million. Additional expansion plan of US$ 200 million in the next 3 years
6.	Salcomp	Chennai	Mobile Phone Chargers	US 8 Million
7.	Hon Hai (Foxconn) Precision Industry Ltd.	Chennai	Manufacture of Mobile handsets and components and electronic hardware etc	US $ 110 million
8.	Perlos	Chennai	Handset mechanics	US $ 12 million
9.	Laird Technologies	Chennai	Mobile Phone accessories	US $ 25 million
10.	Alcatel	Chennai	Wi Max Centre etc	US $ 60 million
11.	Flextronics	Chennai	Telecom Hardware manufacturing	US $ 100 million
12.	Motorola	Chennai	Low cost GSM Phone	US $ 70 million
			Handsets	US $ 100 million (in 1 year)
13.	Telcordia Technologies USA	Chennai	Software Development Centre to provide telecom network software & services for IP, wireline, wireless and Cable	US $ 30 million
14.	Nokia Siemens Network	Chennai	Wireless Network Equipment	US $ 100 million
15.	Velankani Information System Pvt. Ltd	Sriperumbedur	Electronic Hardware & Software including ITES	US $ 200 million
16.	Wintek Ltd	Chennai	LCD Panel	US $ 10 million

4.1.8 Internet Service

- 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 were also allowed to offer Internet Telephony Service after obtaining permission of the Telecom Authority.

- As on 31.12.2009 there are 376 ISP licensees out of which 185 licensees are permitted to offer Internet Telephony. There are about 1.51 crore internet subscribers as on 31.12.2009. ISPs are permitted to set up their own gateways using satellite or Submarine cable medium after getting security clearance.

- A new guideline for grant of Internet Service license was issued on 24th August 2007 wherein no separate permission to offer internet telephony is required. 75 new licenses have been issued after issuances of new guidelines till 31.12.2009. Two ISPs have been permitted to provide IPTV service.

4.1.9 VSAT Services

- As envisaged in the NTP 99, licenses are granted on non exclusive basis for **Very Small Aperture Terminal (VSAT)** services using INSAT satellite system within the territorial boundaries of India. Under the VSAT license, the licensees provide data connectivity within CUG between various sites scattered throughout India using VSATs and central hub. There are two categories of VSAT licenses :

  i) Captive CUG VSAT license wherein the licensee company can set up VSAT network for its internal use only. As on 31.12.2009 there are 35 captive CUG VSAT networks and the number of VSATs under this service is around 10,100 as on 31.12.2009.

  ii) Commercial Common User Group (CUG) VSAT license wherein the licensee company can provide CUG VSAT service to a number of CUGs on commercial basis. As on 31.12.2009 there are 14 licenses for commercial CUG VSAT services and the number of VSATs under this service is around 1,08,550 as on 31.12.2009.

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 April to December 2009 as detailed below:

4.2.1 Bilateral Co-operations / Joint Commission Meetings (JCM) during the year 2009-10 (upto December 2009) are detailed as below:

1. Bilateral meeting between India and Japan in the field of Telecom. A High level Japanese delegation attended the meeting at Ball Room in Hotel Oberoi on 21-22nd May, 2009. From DoT side DDG (IR) and Director (IR-I) attended the meeting.

2. The 12th India- Australia Joint Ministerial Commission (JMC) meeting was held on 11th September 2009 in Room No 108 Udyog Bhawan. The meeting was attended by ADC (IC-I) from DOT side.

3. The 1st Session of the Inter-governmental Commission on Trade, Economic, Scientic and Technology Cooperation between the Government of the Republic of India and Government of the Republic of Azerbaijan was held on 26th November, 2009 in Udyog Bhawan. The meeting was attended by Director (IR-I) from DOT side.

4.2.2 Events:

- A high level delegation led by Hon'ble Minister of Communication & IT participated in ITU World Telecom. The Hon'ble Minister had meetings with his counterparts of Malaysia, Azerbaijan, Columbia and Singapore. India had also set up a pavilion in the Telecom Exhibition.
- India hosted a Cyber Security Forum from 23-25 September 2009 at Hyderabad in association with ITU Geneva.
- India hosted SAARC workshop on Cyber Security from 22-23 December , 2009 at New Delhi
- Mr R N Jha DDG (IR) has been elected Vice Chairman of the Council at ITU Geneva.

- India has agreed to host World Telecom Development Conference-10 from 24th May to 4th June, 2010 at Hyderabad. India is hosting this event for the first time. Over 1200 Foreign delegates from across 150 Member countries of ITU including Ministers and some Heads of the States are expected to attend the conference.
- India has submitted following proposals for consideration of the Working Party 4C of ITU-R Study Group 4 held from 31/08/09 to 09/09/09.

  (i) "Description of systems and networks in the radio navigation-satellite service (Space-to - Earth and Space-to-Space) and technical characteristics of transmitting space stations operating in the bands 1 164-1 215 MHz, 1 215-1 300 MHz and 1 559-1 610 MHz"
  (ii) "Characteristics and protection criteria for receiving earth station in the radio navigation-satellite service (Space-to-Earth_ operating in the band 1 164-1 215 MHz and 1 559-1 610 MHz"
  (iii) "Use of Low Density Parity Check (LDPC) Convolution Codes (LDPCCC) in Global Navigation Satellite System (GNSS) signal date format"

- WPC has been interacting with Department of Space for hosting the meetings of Working Parties 4A, 4B and 4C of ITU-R Study Group-4.

4.2.3 Visit of Ministers and other Dignitaries/Delegations to Foreign Countries: Some of the important events in this regard are enumerated below:

- Indian delegation led by Shri Siddhartha Behura, Chairman Telecom Commission was deputed to hold a bilateral meeting in Nepal from 14-16th April, 2009 on Government Expenditure.

- Deputation of Indian delegation led by Shri R. Ashok, Member (Fin) & Ex-officio Secretary DOT, along with Shri D.K. Agarwal, Advisor (T) and Shri R.N. Jha, DDG (IR) to Lisbon, Portugal for participation in the World Telecommunication Policy forum Meeting from 20-24th April, 2009 on Government Expenditure.

- Deputation of Indian delegation comprising of Shri Manish Sinha, DDG (LF), Shri A.K. Srivastava, DDG (AS-I) and Shri A.K. Singh, ADG (AS-I) participated in Number Portability, Middle East-2009 Conference at Dubai from 19-21st April, 2009.

- Deputation of senior officers of DOT comprising of Shri G.P. Srivastava, DDG (CS) and Shri Shah Nawaz Alam, Director (LF) participated in the Telecommunications ICT Policy and Regulation Meeting at Nadi, Fiji from 29th April to 1st May, 2009.

- Deputation of Indian delegation led by Shri Siddhartha Behura, Chairman Telecom Commission including members Shri N.K. Srivastava, Sr. DDG (TEC) and Shri R.N. Jha, DDG (IR) participated in the Regional Preparatory Meeting for the Asia Pacific Region held in Kuala Lumpur, Malaysia from 05-8th May, 2009.

- Shri Viresh Goel, AWA, WPC, DOT participated in the ITU-R Joint Task Group 5-6 Meeting from 11-15th May, 2009 at Geneva, Switzerland.

- Deputation of Indian delegation comprising of Dr. Ashok Chandra, Wireless Advisor, WPC and Shri N.K. Srivastava, Sr. DDG participated in the meeting of ITU-R Study Group 5 and its working parties at Geneva, Switzerland during 18-29th May, 2009.

- Shri K.K. Jain, ADG (Spectrum), TEC, DOT participated in training course on Spectrum Management during 19-25th May, 2009 at Seoul, Korea on APT fellowship.

- Shri Kirti Kumar, DDG (C&A), DOT participated in International Promotion of the India Telecom 2009 Exhibition and Conference at Dubai from 25-27th May, 2009.

- Dr. S.M. Sharma, DWA, WPC DOT deputed for participation in the meeting of working party 5D of ITU-R Study Group from 10-17 June, 2009 at Geneva, Switzerland.

- Shri J.S. Deepak, Joint Secretary(T), DOT visited Japan and Korea during 02-05th June, 2009 for International Promotion of the India Telecom 2009 Exhibition and Conference.

- Deputation of India delegation led by Shri Siddhartha Behura, Chairman Telecom Commission along with Shri Manish Sinha, DDG (LF) and Shri H.S. Chawla, Assistant to Singapore for participation in CommunicAsia for International Promotion of the India Telecom 2009 Exhibition and Conference during 16-19the June, 2009.

- Deputation of an Indian delegation led by Shri A. Raja, Hon'ble Minister of Communication & IT, Government of India and comprising of APS to Hon'ble MOC & IT, Shri Ajay Bhattacharya, Administrator (USOF), Shri Amit Agarwal, Director PMO and Shri Anurag Kochar, Director (IR-II) participated in the ITU Telecom World 2009 at Geneva, Switzerland during 05-09th October, 2009.

- Deputation of Indian delegation led by Shri Chandra Prakash, Member(T) participated in the 10th ASEAN Telecommunications & Information Technology Senior Official (TELSOM) & 9th ASEAN Telecommunications & IT Ministers Meeting (TELMIN) from 12-16th October, 2009 at Vientiane, Lao PDR

- Deputation of DOT officers comprising of Smt. Archana G. Gulati, Joint Administrator (F), USOF and Shri D. Mahto, Dy. Administrator (F) participated in the training on Telecom Network Cost Modeling for the Asia pacific Region at Bangkok, Thailand from 09-13th November, 2009.

- Deputation of Indian delegation led by Smt. Vijayalakshmy K. Gupta Member (Fin), DOT with Shri Pramod Kumar, Director (IR-I) participated in the 33rd Session of the Management committee of the Asia Pacific Tele-community at Tehran, Iran from 14-17th December, 2009.

4.2.4 Important Initiatives/ events:

4.2.4.1 Setting up of Telecom Centres of Excellence in Public Private Partnership mode:

To meet the future challenges of Indian Telecom Sector, the fastest growing telecom sector in the world with addition of nearly 14 million connections per month on sustainable basis, Department of Telecom has initiated an unique initiative of setting up of **Telecom Centres of Excellence** (TCOEs) at selected Indian Institute of Technology (IITs), IIM Ahmedabad and Indian Institute of Science (IISc) Bangalore and Industries in Public Private Partnership mode (PPP) mode. The objective of these TCOEs is to bridge the

high rural-urban gap in tele-density (digital divide), development of India specific applications, and faster deployment of broadband infrastructure across the country and continuous adaptation of regulatory environment to facilitate induction/adoption of high potential new technologies and business models and capacity building of talent pool for industry.

The seven TCOEs at these premier academic institutes supported by a major telecom operator have identified important projects in association with the industry under working to generate a skilled talent pool, cutting edge research, customer centric regulatory frame work and innovative business models for rural India with a vision to extend the education and economic befits to the poorest of the poor through telecommunications. So far 70 R & D projects at a cost of Rs 16 crore have been taken up in the areas of energy efficient devices & low backhaul for rural areas, network security, voice mail banking etc. TCOE has been accepted by ITU as valuator for its international mobile telephony cards data proposal 4G network.

4.2.4.2 India Telecom Series of Exhibition cum Conference:

To promote and showcase the capabilities and opportunities in Indian telecom sector, Department of Telecommunications in association with FICCI organized the fourth consecutive exhibition and conference "India Telecom 2009" in December 2009 at New Delhi.

The Hon'ble Prime Minister of India graced the occasion by addressing the participants of the event. Dr. A P J Abdul Kalam, Former President of India also addressed the gathering during a special session on "Telecom for Inclusive Growth".

The conference brought the government, policy makers, potential investors, operators, manufacturers, infrastructure providers, content providers, academia and non-governmental organization together at a common platform to discuss how telecommunications can lead to an "all-inclusive growth" of the Indian economy in terms of GDP, growth, employment and revenues among others. The exhibition was huge success with about 200 exhibitors from across 28 countries.

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 2009 to December 2009 5 GRs/ IRs were issued, 16 GRs/IRs revised.

(ii) TEC is also engaged in providing satellite based broadband network in NE region. Out of 50 VSATs planned for the NE region, 20 VSATs in Sikkim, 20 in Meghalaya and one in TEC New Delhi have been installed.

(iii) TEC is responsible for preparation of Test Schedule/Test Procedure + TSTP for CAB during the period April to December 2009 21 Test Schedules were prepared. The review of the performance for the year 2008-09 and for the year 2009-10 (upto December 2009) is placed at **Annexure-L**.

4.4 Wireless Planning and Co-ordination

The Wireless Planning and Coordination Wing in the Department of Telecommunications, deals with the policy of spectrum management, wireless licensing, frequency assignments, international coordination for spectrum management and administration of Indian Telegraph Act 1885, (ITA, 1885), for radio communication systems and Indian Wireless Telegraphy Act 1933, (IWTA, 1933)

4.4.1 Achievement, Activities and Performance for the period 1.4.2009 to 31.12.2009

- Assignments of frequencies for terrestrial networks of government and private sector were made for variety of applications, namely, GSM band Cellular network, PMRTS, CDMA & CorDECT based networks, point-to-point and point-to-multipoint microwave networks, etc. after necessary technical examinations, analysis and coordination with other wireless networks, as appropriate for establishing electromagnetic compatibility so as to ensure interference-free operation of all such networks. The frequency in 869-889 MHz paired with 824-844 MHz is considered for assignment for CDMA based networks & 1880-1900 MHz is considered for assignment for CorDECT based networks.

- Efforts for coordination of additional spectrum for the GSM based cellular services have been continuing at the highest level.

- Guidelines of allocation of Spectrum for 3G & Broadband Wireless Access(BWA) were formulated and issued during the year.

- SACFA (Standing Advisory Committee on Radio Frequency Allocations) is a high level inter-departmental standing committee under the chairmanship of the Secretary (Telecom) and is responsible for formulating policies on radio frequency allocations, site clearance regarding installation of wireless antennas by Cellular Service providers and other wireless users. SACFA took up cases of unauthorized use/construction of wireless antennas by wireless users. It also took up the cases of interference/obstruction/flying hazards caused by any wireless user/network. Wireless users have to abide by other local bye-laws regarding structural safety, environment and pollution.

- During the period April to December 2009, 2,98,272 sites were cleared for new wireless stations by the WPC wing; 3194 import licenses were issued, 20770 licenses were issued to new wireless stations, 18564 licenses, for wireless stations, were renewed. 2666 Certificate of Proficiency (COP) for Radio Operators' examination were conducted, 15371 candidates were admitted, 3663 COP licenses were issued and 2659 licenses were renewed. During the period 150 licenses were issued to new Radio Amateur Stations and 756 licenses were renewed for Old Radio Amateur Stations.

4.4.2 National Frequency Allocation Plan (NFAP-2008)

- The current policy document on spectrum viz. the National Frequency Allocation Plan-2002 (NFAP-2002) has been revised and the National Frequency Allocation Plan-2008 (NFAP-2008) has been evolved in line with the Radio Regulation of the ITU edition 2008 with a view to catering for conflicting demands on the spectrum, including those of new emerging technologies without unduly constraining the existing usages. NFAP-2008 effective from April, 2009 is available on WPC Wing web site.

- NFAP-2008 Review/Revision Committee, under the chairmanship of Wireless Adviser has been constituted to revise the NFAP-2008. Its first two meetings were held in June & December 2009.

4.4.3 Satellite System Coordination:

- **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.

4.4.3.1 Satellite coordination with other Administrations

- Agreement of Indian administration regarding summary record of satellite coordination meeting between India and Kazakhstan has been conveyed to the administration of Kazakhstan and ITU.
- Coordination Agreement between INSAT and ARABSAT satellite network for BSS operation has been conveyed to the Kingdom of Saudi Arabia and ITU.

4.4.4 Coordination with ITU

- Detailed coordination request in respect of INSAT-TTC satellite networks of India for location 82 E was sent to ITU.
- AP30B information in respect of INSAT EXK (82.5E) satellite network in KU band was sent to ITU for publication in BR IFIC.
- Due diligence in respect of INSAT- KU10 (55E) satellite network of India under Resolution 49 (rev. WRC-07) was forwarded to ITU for publication in the appropriate special section.
- The compatibility analysis between INSAT-EK 83 (83E) satellite network of India and STATIONAR 6 (90E) was communicated to ITU for registration of INSAT-EK83 (83E).
- Notification in respect of CHANDRAYAN-I satellite network of India was sent to ITU for publication in the special section of BR IFIC.
- Advance Publication Information in respect of Global Indian Satellite System (INSAT-GNSS) networks of India has been sent to ITU for publication in BR IFIC.
- Request for registration of INSAT-EK 48, INSAT-EK55, INSAT-EK 74, INSAT-EK 83, INSAT-EK 93.5, INSAT-EK 48R, INSAT-EK55R, INSAT-EK 74R, INSAT-EK 83R, INSAT-EK 93.5R satellite network has been sent to ITU.
- Advance Publication Information in respect of INSAT-KU11(48) E, INSAT- KU11(74)E, INSAT- KU11(83)E, INSAT- KU11(93.5)E and INSAT KU11(111.5) E was submitted to ITU for publication in BR IFIC.
- Coordination request in respect of IRNSS constellation consisting of INSAT- NAV-A(34), INSAT- NAV-A(83), INSAT- NAV-A(131.5) and INSAT- NAV-A(GS) satellite network of India for additional frequencies was sent to ITU.
- Coordination request in respect of INSAT-KU-11(55) E satellite network of India in KU band was sent to ITU.
- Advance Publication Information and coordination request in respect of INSAT-TTC (81.5) E satellite network of India was sent to ITU for its publication in BRIFIC.

- Advance Publication Information in respect of INSAT-MET (81.5) E satellite network of India was sent to ITU for its publication in BRIFIC.
- Advance Publication Information in respect of OCEANSAT-2 satellite network of India was sent to ITU for its publication in BRIFIC.
- Coordination request for 387 frequency assignments in respect of INSAT-G5 (55) E, INSAT-G5 (74) E, INSAT-G5 (83) E and INSAT-G5 (93.5) E satellite network of India in C-band was sent to ITU for its publication in BRIFIC.

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

- 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 Russia, UK, Vietnam, Germany, China, Hungary, Cyprus, PNG, Norway, Malaysia, Thailand, Egypt, UAE, Australia, Ukraine, Azerbaijan, Turkey, Japan, Canada, USA, Saudi Arabia, Korea, Holland Czech Republic, Luxembourg, Pakistan, Italy, Nigeria, Cote d'Ivory, Laos and France requesting for detailed coordination with a view to protecting Indian Satellite and terrestrial networks.

4.4.5.1 Following Indian satellite networks were published in the special sections of International Frequency Information Circular (BR IFIC)

- Coordination request in respect of INSAT-TTC at GSO locations (48E, 55E, 74E, 83E, 93.5E &111.5E) satellite networks was published in BR IFIC.
- Progress reports in respect of INSAT-NV (55), INSAT-NAV-A-GS (NGSO), INSAT-NAV-A at GSO locations 34E, 83E, 132E, 131.5E, INSAT-MSS-NG at GSO locations48E, 55E, 74E, 93.5E & 111.5E satellite networks of India was published in BR IFIC.
- Part-1S Notification of INSAT-EK-55 satellite network of India at GSO location 55E was published in BR IFIC.
- Advance Publication Information in respect of TWSAT (NGSO) satellite network of India was published in BR IFIC.
- Coordination request in respect of INSAT-C/KU (86) E satellite networks of India was published in BR IFIC.
- Advance Publication Information in respect of INSAT-MET 48E, 55E, 74E, 82E, 83E and 93.5E satellite network of India was published in BR IFIC.

4.4.6 Regulations

4.4.6.1 Following Notifications under sub-section(5) of Section 7 of the Indian Telegraph Act, 1885 regarding amendment in Experimental service and Demonstration license were published through Gazette notifications during the period :-

i) The Indian Wireless Telegraphy (Experimental Service) (Amendment) Rules, 2009 were published in Notification No. G.S.R. 324(E) in Gazette of India dated the 15th May, 2009.

ii) The Indian Wireless Telegraphy (Demonstration License) (Amendment) Rules, 2009 were published in Notification No. G.S.R. 325(E) in Gazette of India dated the 15th May, 2009.

4.4.6.2 The "Core Group" formed by National Disaster Management Authority (NDMA), New Delhi, convened various meetings for preparation of Guidelines on National Disaster Communication Network (NDCN) within the country wherein WPC Wing made significant contribution. NDMA were informed during various Core Group meetings that the current National Frequency Allocation Plan-2008 (NFAP-2008) document, effective from 1st April, 2009, has been developed within the framework of ITU taking into account spectrum requirement of Government as well as private sectors in the fast changing scenario with a view to meeting requirements of new emerging and existing technologies and taking into account the decisions/ recommendations of the World Radio communication Conferences 2003 & 2007 (WRC-2003 & 2007) of International Telecommunication Union (ITU), etc.

4.4.6.3 As per NFAP-2008, which is available on WPC Wing's website viz. www.wpc.dot.gov.in, suitable provisions for public protection and disaster relief (PPDR) communications have been made in the current NFAP spectrum policy document to meet the spectrum requirement for various wireless communication needs during any disaster. Relevant IND 73 remark mentioned in the NFAP-2008 document, presently in force has been carved out taking into account the existing International Radio Regulation practices adopted worldwide, which depicts that requirement of public protection and disaster relief (PPDR) communications may be considered, as far as possible, in the frequency bands 380-400 MHz, 406.1-430 MHz, 440-470 MHz, 746-806 MHz, 806-824/851-869 MHz, 4940-4990 MHz and 5850-5925 MHz on a case by case basis depending on specific need and equipments availability.

4.4.7 Automation of Spectrum Management and Augmentation of Monitoring System

4.4.7.1 The project 'Design, Supply, Installation & Commissioning of "National Radio Spectrum Management & Monitoring System (NRSMMS)" is being implemented by the WPC Wing. Under the project, spectrum management and monitoring functions have been automated with a view to making these activities effective and efficient. The NRSMMS has two interrelated components of "Automated Spectrum Management System (ASMS)" and "National Spectrum Monitoring System (NSMS)". ASMS has been completed and in operation.

4.4.7.2 The Operational Acceptance of NRSMMS facilities for 20 stations, excluding SHF parts (fixed & Mobile), has been done w.e.f 14.10.2008 and one year the Defect Liability Period (DLP has been started. Thereafter, maintenance period for 5 years will commence from 15.10.2009 and the works / activities in this respect have been commenced.

4.4.7.3 After Completion of Operational Acceptance of NRSMMS facilities for 20 fixed sites and 21 V/UHF Mobile stations, excluding SHF parts (fixed & Mobile), on 14.10.2008, one year Defect Liability Period (DLP) has been started w.e.f 15.10.2008.The Annual Maintenance Contract, for one year w.e.f 15.10.2009 has been commenced in respect of various parts of NRSMMS. During this period, all of the NRSMMS be maintained for its smooth working.

The review of the performance for the year 2008-09 and 2009-10 (upto December 2009) is placed at **Annexure – "M".**

4.5 Wireless Monitoring Organization

Wireless Monitoring Organization continued to provide interference-free wireless services in the increasingly crowded radio environment besides providing vital technical data for the introduction of new services/applications by the WPC wing.

During the year 2009-10, WMO's primary focus is on public mobile radio-communication services, public broadcasting services and safety-of-life services. WMO is earnestly gearing up its resources to ensure that these services continue to operate in interference-free environment. The primary reason for the interference protection to these services lies in their critical importance to the Indian public.

With respect to public mobile cellular service, WMO has twin objectives: (i) to identify and eliminate the sources of interference occurring due to a multitude of reasons, and (ii) to find unused spectrum for expansion of existing 2G service and for the introduction of 3G service. In so far as public broadcasting is concerned, its transmissions have been found to be affecting aeronautical mobile communications (civil aviation) and also infringing licensing parameters. To address the needs of such crucial services, WMO is in the process of procuring custom-designed radio monitoring products.

- During 2009-10 W.M.O has undergone major modernization of Radio Spectrum Monitoring capabilities through World Bank assisted Telecom Reform Project. Under this project the following has been done:-

  a. Antenna Towers have been erected to augment the monitoring facilities under the project at Ahmedabad, Ajmer, Bhopal, Delhi, Chennai, Gorakhpur, Kolkata, Nagpur, Mumbai, Shillong and Trivandrum.

  b. 20 Mobile Monitoring vehicles (MMS), comprising V/ UHF monitoring systems under the project have been dispatched and are already operational at respective Wireless Monitoring Stations. However, maintenance issues, concerning sub-assemblies with the MMS vehicles require special efforts.

- In order that WMO effectively and efficiently addresses new monitoring challenges emerging from the increasingly crowded radio frequency spectrum, it has taken steps to introduce new technologies and capacity-building. For new technologies, procurement of software and hardware has already been initiated. Intensive training on monitoring as well as information technology is aimed at capacity-building. These two aspects are being jointly handled by the MHQ and Training & Development Centre, New Delhi.
- Satellite Monitoring Earth Station at Jalna (Maharashtra) continues the monitoring of signals from all satellites located in the Geo-arc of interest to India. Its measurement functionality is planned to be enhanced in the near future.
- WMO intends to procure 4 "SHF Microwave Monitoring Terminals (MWTs)" at an estimated cost of Rs.28.0 crore in the current Five Year Plan. The procurement of these MWTs would be the first phase of equipping the WMO with the microwave monitoring capability.
- With the approval of Telecom Commission, WMO has brought out an Order, in November, 2009 establishing of six new Wireless Monitoring Stations at Bhubaneswar, Dehradun, Lucknow, Patna, Raipur & Vijayawada. The technical infrastructure for these six additional Wireless Monitoring Stations would more effectively address the monitoring needs of public mobile and broadcasting services than what is currently available to other Wireless Monitoring Stations. To this end, WMO

has initiated the process of seeking the approval of Telecom Commission for the procurement of six V/UHF Mobile Monitoring Terminals and six V/UHF Mobile DF Terminals. In addition, WMO also intends to procure six HF fixed monitoring facilities for these six new WMS's. The expected cost of these facilities is about Rs. 27.0 crore and the procurement is to be effected in 2010-11.

- In the current Financial Year, WMO intends to procure 6 HF Fixed wireless monitoring facility for the six new Wireless Monitoring Stations. In the current Five Year Plan, 6 V/UHF monitoring terminals and 6 V/UHF DF terminals will also be procured for these stations.
- A Specialized Mobile Monitoring Terminal having monitoring capabilities up to 40 GHz continues to be operational. The primary objective is to monitor special transmissions from terrestrial stations.
- At a few Monitoring Stations, fixed direction finding systems are being continued to be used for locating the direction radio transmissions in the HF frequency band.
-

The review of the performance for the year 2008-2009 and for the year 2009-2010 is placed at **Annexure - "N"**.

4.6 Universal Service Obligation Fund:

The New Telecom Policy 99 (NTP-99) envisages provision of access to basic [word basic deleted vide Indian Telegraphs (Amendment) rules 2006] 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.

In keeping with NTP-99, recommendations of TRAI on the issues relating to the USO were sought. Based on the decisions taken on the recommendations, the Universal Service Support Policy (USSP) was framed. The USSP came into effect from 01-04-2002. At present, the USL is 5% of the Adjusted Gross Revenue (AGR) earned by all the operators except pure value added service providers like voice mail, email etc.

The Indian Telegraph (Amendment) Act 2003 giving statutory status to USOF was passed by both houses of the Parliament in December 2003. Deemed to have come into force from 1st April 2002, the Fund is to be utilized exclusively for meeting the USO and the balance to the credit of the Fund shall not lapse at the end of the financial year. Credits to the fund shall be through Parliamentary approval. The rules for administration of the fund have also been notified on 26-03-2004.

Scope of Support from USOF:

As per the Indian Telegraph (Amendment) Rules, 2004 (and subsequent amendments in 2006 and 2008), the scope of USOF activities includes:

Stream-I Public Access Telephones

Stream-II Provision of Household Telephones in rural and remote areas.

Stream-III Creation of infrastructure for provision of Mobile services in rural and remote areas.

Stream-IV Provision of Broadband connectivity to villages in a phased manner.

Stream-V Creation of General Infrastructure in rural and remote areas for development of telecommunication facilities.

Stream-VI Induction of New Technological Developments in the telecom sector in rural and remote areas.

Implementation Status:

A. Ongoing USOF activities:

I. Public Access:

(i) Agreements were signed with M/s BSNL and six Private Basic Service Operators (PBSOs) in March 2003 for operation and maintenance of existing Village Public Telephones (VPTs) in the identified revenue villages as per Census 1991. In addition, subsidy support is also admissible for the VPTs installed in the uncovered villages as per census 1991 and also VPTs in the newly identified uncovered villages as per census 2001. As on 31-12-2009, about 5.66 lakh villages i.e. 95.3% of the Census 2001 inhabited revenue villages are already covered with Village Public Telephones (VPTs), including the VPTs provided under Bharat Nirman and the VPTs in the newly identified uncovered villages as given below.

Uncovered VPTs

(ii) Agreements were signed with M/s BSNL in November 2004 to provide subsidy support for provision of VPTs in 66822 uncovered villages as per Census 1991 in the country, excluding those villages having population less than 100, those lying in deep forests and those affected with insurgency. The number of VPTs to be provided under the scheme has been revised as under as per reconciliation done by BSNL:

	DSPT	Non DSPT	Total
Nos. as per Agreement	14183	52639	66822
Nos. revised as per reconciliation	3938	58364	62302
Difference	(-)10245	(+) 5725	(-) 4520

As on 31-12-2009 VPTs have been provided in 61186 uncovered villages.

VPTs in newly identified uncovered villages

(iii) An agreement was entered into with M/s BSNL for provision of VPTs in the 62443 uncovered villages as per census 2001. As on 31-12-2009, 36039 VPTs have been provided under the scheme. The remaining VPTs are targeted to be provided by February 2011.

Multi Access Radio Relay VPTs

(iv) Agreements were signed with M/s BSNL for replacement of 1,85,121 number (reconciled figures) of VPTs with reliable technologies, which were earlier working on Multi Access Radio Relay (MARR) technology and installed before 01.04.2002. 656 number of MARR VPTs have been replaced in FY 2009-10 upto Dec. 2009, taking the cumulative total of number of MARR VPTs replaced under the scheme to 184521.

Rural Community Phones (RCPs)

(v) Agreements were signed on 30.09.2004 for providing 40,705 (reconciled figures) Rural Community Phones (RCPs) [BSNL: 21,958, RIL: 18,747] in villages with population more than 2000 and not having PCO facility. As on 31-12-2009 a progressive total of 40694 RCPs have been installed under the scheme and only a small number of 11 RCPs are pending installation.

Service Provider	Target	Achievement
BSNL	21958	21958
RCL	18747	18736
Total	**40705**	**40694**

II. Individual Access:

(i) Agreements were signed with M/s BSNL, M/s RIL, M/s TTSL and M/s TTSL (MH) in March 2005 for installation of Rural Household Direct Exchange Lines (RDELs) during the period 01.04.2005 to 31.03.2007. These RDELs are to be installed in 1685 Short Distance Charging Areas (SDCAs), where cost of providing telephone is more than the revenue earned. Subsequently, the cutoff date for installation of the RDELs was extended upto 31.03.2010. In the current FY 2009-10 (upto Dec. 2009), 7.36 lakh RDELs have been provided which makes a progressive total of 70.49 lakh RDELs installed upto December 2009 under the scheme.

Service Provider	Number of SDCAs	Total No. of RDELs provided upto 31-03-2009	No. of RDELs provided from April 2009 to December 2009	Total No. of RDELs provided (upto December (2009) (Progressive)
BSNL	***1267***	***2019069***	***317665***	***2336734***
RCL	***203***	***1782393***	***154798***	***1937191***
TTSL	***172***	***1800033***	***211517***	***2011550***
TTMH	***43***	***710962***	***52121***	***763083***
Total	***1685***	***6312457***	***736101***	***7048558***

(ii) Subsidy support on the same Representative Rates is also being provided for about 18,65,690 Rural DELs [BSNL: 18,26,923, RIL: 38,767] installed in the eligible SDCAs during the period 01.04.02 and 31.03.05. Agreements to this effect were signed with M/s BSNL and M/s RIL in May 2005 and August 2005 respectively.

(iii) Based on the recommendations of TRAI, Indian Telegraph Rules (ITR) have been amended to provide subsidy support to the eligible operators for operational sustainability of Rural Wireline Household DELs installed prior to 01.04.2002. A MOU has been signed with M/s BSNL for providing subsidy support of Rs. 2000 cr. per annum for a period of 3 years w.e.f. 18.07.2008 under the scheme in lieu of ADC being phase out.

III. Infrastructure Support for Mobile Services (Phase-I):

A scheme has been launched by USO Fund to provide subsidy support for setting up and managing 7871 (the numbers stand revised to 7387 as a result of addition/dropping of towers as on 31-12-2009) number of infrastructure sites (towers) in 500 districts spread over 27 states for provision of mobile services in the specified rural and remote areas, where there is no existing fixed wireless or mobile coverage. The infrastructure so created shall be shared by three service providers for provision of mobile services. The agreements (effective from 01.06.2007) were signed with the successful bidders in May 2007. By December 2009, 6956 towers have been set up under the scheme. Utilizing the infrastructure so created, BTSs are being commissioned and mobile services are being commenced by different Universal Service providers (USPs) in the phased manner.

IV. Wireline Broadband Connectivity In Rural And Remote Areas

An agreement was entered into with M/s BSNL on 20-01-2009 for provision of Broadband connectivity in rural and remote areas from about 28000 rural exchange spread across the country. Under the scheme 8,61,459, broadband connections shall be provided to individual users and Government institutions over a period of five years i.e. by 2014 by leveraging the existing rural exchanges infrastructure and wire line network. The speed of each of the broadband connections shall be at least 512 Kbps always on, with the capacity to deliver data, voice and video services in the fixed mode. Besides, one broadband kiosk shall also be provided from each rural exchange. The kiosk shall provide internet access and other facilities such as printing, scanning, video

conferencing and value added services. Government institutions i.e. schools, primary health centers, Panchayats etc and individual subscribers will benefit from the scheme. As of December 2009, 95011 broadband connections and four (4) kiosks have been provided under this scheme.

B. Planned USOF activities

I. Pilot Projects

Under the scheme, support shall be provided for Pilot projects to establish new technological developments in the telecom sector, which can be deployed in the rural & remote area. About five pilot projects are likely to be provided subsidy support at an upper ceiling of Rs. 50 Lakh per project. Successful technology providers have been declared and MOU is likely to be signed shortly. Support is also being considered for renewable energy resources (Solar, Solar/Wind, Hybrid renewable energy solutions) at 20-28 USOF Shared Mobile Infrastructure sites (Phase-I), on pilot basis. The bids for the scheme are under evaluation. Further, support is also being considered for mobile charging stations in about 5000 villages in coordination with the TERI project of Lighting a Billion Lives (LaBL). The Agreement is likely to be signed with TERI shortly.

II. Augmentation, Creation & Management Of OFC Assam Service Area

With a view to provide sufficient back-haul capacity to integrate the voice and data traffic from the access network in the rural areas, i.e. villages, to their core network, USOF has taken initiative to strengthen the OFC network in the rural and remote areas. The scheme considers OFC network augmentation between the blocks' HQ. and Districts' HQ. The scheme is envisaged to be rolled out in a phased manner during the current five year plan (2007-2012).The service area of Assam has been taken up first for implementation and as per the outcome of the tender floated for Assam service area, BSNL is the successful bidder for implementing this scheme. The Agreement with BSNL would be signed shortly. For service areas other than Assam, tenders are to be floated shortly. In the next stage, the service areas of N.E. & West Bengal will be taken up.

III. Infrastructure Support for Mobile Services (Phase-II)

It is proposed to provide subsidy support for covering other uncovered areas in the country through mobile services**.** Villages or cluster of villages having population of 500 or more and not having mobile coverage have been taken into consideration for installation of towers under this scheme. About 9,000 additional towers shall be set up under this scheme.

IV. Wireless Broadband Connectivity in Rural and Remote Areas

The scheme is aimed at providing subsidy support for the wireless broadband active infrastructure such as BTS, by utilizing the existing passive infrastructure available with the Telecom service providers (TSPs). The scheme would provide broadband coverage to about two lakh villages and rest of the villages shall be covered in subsequent schemes. The scheme would be taken up after the BWA and 3G spectrum auction process is complete.

DISBURSEMENT STATUS

- **The budgetary allotment of Rs 1600 Crores for FY 2008-09 has been entirely utilized.**
- **A budgetary allocation of Rs 2400 cr. has been received for the financial 2009-10 for various USOF activities.**
- **A review of performance for the year 2008-09, first nine months FY 2009-10 and projected performance for the remaining three months of FY 2009-2010 is appended.**

4.7 PUBLIC SECTOR UNDERTAKINGS

4.7.1 BHARAT SANCHAR NIGAM LIMITED

This write up gives a review of overall performance of the Bharat Sanchar Nigam Limited detailing the targets and achievements during 2009-10 in terms of broad physical dimensions and financial outlays.

A) **Targets**: - The physical targets for the year 2009-10 (RE) are as follows:

Physical Targets

S.No.	Parameter	Target
1.	GSM Mobile Capacity (Lakh lines)	180
2.	Broadband Connections (Lakh)	25
3.	Trunk Automatic Exchange (K Ccts.)	1000
4.	Optical Fibre Cables (RKms)	25,500

The review of the performance for the year 2008-2009 and for the year 2009-2010 (upto November 2009) is at **Annexure – "P"**.

In pursuance to Government of India's Broadband Policy 2004, BSNL has introduced Broadband services by the name of 'Data One' in January 2005 and has provided 45.56 lakh connections till date.

B) **SPECIAL COMPONENT PLANS**

Annual Plan of 2010-11 (BE) and Revised Plan 2009-10 (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

NE Region Component Plan and Tribal Sub-Plan

NE Region comprises of 8 states which have international border with Bangladesh, Myanmar & China. Development of NE region is a priority for the Government of India. So, BSNL provides special attention to this region.

In order to work towards achieving the goal, BSNL has a target to provide 6.16 lakh lines of switching capacity and 41,105 ports of broadband capacity in NE region during 2009-10. It has also proposed to lay 1395 RKMs of Optical Fibre Cable and 88 Kilo Ccts of TAX capacity.

During 2010-11, it is planned to provide net switching capacity of 6 lakh lines and 40,000 ports of broadband capacity in N.E. region. Transmission network is also planned to be expanded by providing 1000 RKMs of OFC.

Tribal Sub Plan

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 2009-10 envisages provision of 28.5 lakh lines of switching capacity, 2.25 lakh ports of broadband capacity and 4,758 RKMs of Optical Fibre Cable. It is also envisaged to provide 170 Kilo Circuits of TAX capacity along with 13129 nos. of VPTs in tribal areas.

During 2010-11, it is planned to provide 25 lakh lines of switching capacity, 3 lakh ports of broadband capacity, 4000 RKMs of Optical Fibre Cable and 200 Kilo Circuits of TAX equipment.

National Capital Region (Excluding Delhi)

The area of NCR excluding Delhi lies within license jurisdiction of BSNL. BSNL is making all efforts to improve the telecom facilities in NCR which includes 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 jurisdiction of NCR.

C) The financial outlay in respect of BSNL is given below:

Financial Outlay

(Rs in Crore)

	Year	Outlay
BE	2009-10	14,015
RE	2009-10	14,015
BE	2010-11	14,891

Funding: BSNL meets its requirement of development from its Internal Resources, apart from the support given by USOF towards operation and maintenance of VPTs including replacement and provision of rural DELs.

4.7.2 MAHANAGAR TELEPHONE NIGAM LIMITED

4.7.2.1 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. MTNL's digital network provides host of supplementary services like Call Waiting, Call forwarding etc. to the customers.

The last decade and a half has been an eventful period in the existence of MTNL. There has been all-round development and growth and improved operational efficiency. In the present scenario, the Company is facing competition from other private telecom operators and is successfully adapting to new regulatory environment To meet the challenge of competition, the Company has taken various initiatives, which include re-structuring at operational level as well as broad basing the service portfolio being offered by the company. As the company has limited area of operation the emphasis has been placed on addition of new and value added services In addition to this the company is giving major thrust on the expansion of existing mobile and broadband services in both Delhi and Mumbai to provide high speed internet, high quality video and new generation wireless services.

4.7.2.2 The major schemes/projects in progress are:

New Projects in Progress

i) **GSM capacity expansion** – PO for the expansion of 1000K 2G/ 3G GSM capacity in Delhi and Mumbai has been placed on M/s Motorola and M/s ITI respectively. The deployment of equipment is in progress in both the places.

ii) **Broadband capacity expansion** – Tender for further addition of 1 million broadband ports for Delhi & Mumbai has been finalized and order for 500 K lines in Phase I has been placed on Alcatel. The supply has already been received and equipment is under installation.

iii) **DWDM –** MTNL has placed a PO for the supply of 42 terminals (20 Delhi & 22 Mumbai) of 40 channels 10 GB/channel DWDM equipment to strengthen its transmission network. The installation of the equipment for four terminals in Delhi and 6 terminals in Mumbai which have to be done by the vendor has been completed. Installation of rest of the terminals is in progress. AT of the equipment completed.

iv) **Convergent billing-** A state of the art convergent billing and CRM system is under installation. This will facilitate CDR based billing, single bill for all services to the subscribers, flexibility in billing and innovative tariff packages for subscribers and thus will help in reducing billing complaints. Commissioning of Interconnect Usage Charges (IUC), Bill Printing solution and CDMA LOB in Delhi has been done and they have been put into commercial use. The trial run for GSM LoB is in progress and likely to be commissioned by March 2010 in Mumbai. Rest of LoB would be commissioned in due course.

v) **Wi-Max –** MTNL has been allotted 20 MHz spectrum in TDD mode for providing Broadband Wireless Access (BWA) service. On August 06, 2009 MTNL has already floated an Expression of Interest for deployment of Wi Max 802.16e networks in Delhi and Mumbai on revenue share basis. The comments / queries from various prospective bidders were received on the EOI. The reply to the queries / clarifications is under process for approval . A vendor conference is also proposed so that all the issues are addressed in right perspective and wide vendor participation is ensured in the EoI process.

vi) **FTTH** – MTNL is adding optical fibre in its access network and is planning to introduce FTTH based on GPON so as to provide all of its important customers with fibre connectivity to their homes. This will help in meeting their increased bandwidth requirement for both data and video applications. The evaluation of the techno commercial bids for both passive and active tender is in process.

vii) **Common Wealth Games -** MTNL has been selected as the official telecom partner to set up a world class communication infrastructure to meet out the Common Wealth Games 2010 requirements being held in Delhi. The project involves laying of 350 KM Optical Fiber connecting 37 games and other venues. State of the Art MPLS/IP Networks will be set up for High Definition TV, games data and security. The project will be completed by 1st week of September 2010 at an estimated cost of Rs. 390 Crores.

New project to be taken up in the near future:

- **NGN Class V / IMS** - NGN Class V / IMS tender to replace TDM switches with IP switches is also planned this year. The tender document is under preparation

Projects taken through subsidiaries/joint ventures by MTNL

i) **Millennium Telecom Ltd. (MTL):** MTNL through MTL, a joint venture of MTNL and BSNL is planning to lay Submarine Cable, connecting both East & West coast of India to South-East Asia & Middle-East with an ultimate intent to connect to Europe & USA. Presently the financial evaluation is in progress.

ii) **Mahanagar Telephone Mauritius Limited (MTML):** MTNL has set up its 100% subsidiary "Mahanagar Telephone Mauritius Limited" (MTML) in Mauritius, for providing fixed, mobile and international long distance services as 2nd operator in Mauritius. Necessary license was obtained in January 2004.

Company has set up CDMA–1x EVDO infrastructure to cater to 110k customers. The ILD gateway is also provided along with CDMA MSC to provide ILD services. The company had revenue of USD 6.1 Mn during the year 2008-2009 through Fixed (WLL), Mobile and ILD services. As on 31.12.09 MTML has a customer base in excess of 1,00,000 subscribers.

iii) **United Telecom Limited (UTL):** A joint venture company named United Telecom Limited (UTL) has been set up set up by MTNL, VSNL and TCIL along with Nepal Ventures (P) Limited (NVPL) to provide CDMA based basic, NLD and ILD services in Nepal. MTNL has so far invested approx. Rs.29 crores as equity in UTL. As on date the company has a customer base of approx. 340K.

iv) **MTNL-STP1 IT Services Limited**: It is a 50:50 joint venture between Software Technology Parks of India (STP1) and Mahanagar Telephone Limited. The JV is setting up a data centre for Web-Farming application at Chennai with the aim to provide exclusive data centre services, messaging services, business application services to the identified sectors of economic activity.

v) Order for Infrastructure creation for data center has been placed on M/s Wipro and the work has been completed. In the mean time , JV has already started commercially exploiting the created infrastructure by hosting servers of M/s TCS for MEA's 'Passport Seva Service' on commercial terms

The review of the performance is placed at **Annexure –"Q"**.

4.7.3 ITI LIMITED

A. The paid-up Share Capital of the Company as on 31.12.2009 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. However, as on 31-03-2010 the paid-up share capital of the company would be only Rs.288 crore (equity shares) as entire Rs.300 crores Cumulative Redeemable Preference Shares have already matured and will get shifted from Share Capital to Long Term Loans category. Although the redemption date of the amount is over, Government has permitted ITI to return this amount in five equal installments both to BSNL (Rs.200 crore) and MTNL (Rs.100 crore) from the year 2012-13 onwards.

B. The provision for payment of compensation of losses for the Srinagar Unit of ITI has been made in the non-plan Budget of DoT. A sum of Rs.15.56 crore was provided during 2008-09 and Rs.6.79 crore has been provided in the RE 2009-10.

C. To enable ITI to compete in the highly competitive market and high obsolescence era with changing technology and short product life, the Union Cabinet had approved a revival package for ITI to the tune of Rs. 2820 crore to clean up the ITI balance sheet. In the financial year 2009-10, a sum of Rs. 2820 crore was paid from the non-plan budget for financial restructuring as a part of revival of ITI.

D. Token budgetary support of Rs. 1 cr. has been provided under Plan for the year 2010-11.

4.7.4 TELECOMMUNICATION CONSULTANTS INDIA LIMITED

In a year of economic down turn worldwide TCIL delivered an improve performance achieving a significant growth in turn over and profits in the year 2008-09. In the current financial year also there have been positive developments. During the year 2009-10, the company has secured orders of over Rs.485 crore till August 2009. The major orders secured during the year are in Kuwait, Nepal, Oman and also in various Indian states. The company also continues to operate in Saudi Arabia, Algeria, Bhutan, Qatar, Jordan *et al*. TCIL has been awarded a project for Pan-Africa, e-Medicine and e-Education for 53 African countries valuing Rs. 542 crore and for SAARC valuing Rs. 10.61 crore. The project has been commissioned in 20 countries and shall be commissioned in all countries, which have the Country Agreement, within this financial year itself. The company shall be maintaining the network for next five years. Similar proposals are under consideration for ASEAN countries.

The company is focusing on Restructured Accelerated Power Development and Reforms Programme (R-APDRP) project which is an endeavour of Ministry of Power, Government of India. TCIL has been awarded the consultancy work for Madhyanchal Vidyut Vitran Nigam Ltd. (MVVNL), Lucknow, Uttarakhand Power Corporation Ltd. (UPCL) and Madhya Gujarat Vij Company Ltd (MGVCL).

Financial Performance & Profitability of Projects:

(Rs. in crores)

	2006-07 Actual	2007-08 Actual	2008-09 Actual	2009-10 RE	2010-11 BE
Turnover	410.61	414.87	646.41	688.00	760.00
Profit before Tax	5.94	3.51	6.54	9.00	10..00
Foreign Exchange Repatriation to India	28.00	69.57	31.20	25.00	20.00
Net Worth	397.87	399.99	405.60		

HIGHLIGHTS 2009-10

a) TURNOVER & PROFIT:

Turnover in 2009-10 is likely to be Rs. 688.00 crore against previous year's figure of Rs.646.41 crore. The turnover from foreign projects is likely to be Rs. 235.72 crore in 2009-10 against previous year's figure of Rs. 256.25 crore.

b) THRUST ON HI-TECH PROEJCTS :

Company has given thrust on hi-tech projects in new technologies of OPGW based broadband networks, GSM / CDMA Projects, FTTH, Communication system for monitoring of ships from shore, Satellite Networks, E-medicine, E-education, E-Governance Projects consultancy in creation of Cyber cities and Installation of Lawful Interception Monitoring System (LIM).

c) INFORMATION TECHNOLOGY PROJECTS:

With the change in telecom scenario, Company took a bold step & attempted to enter new areas and diversified its operations in the allied fields. Company has also revitalized & restructured the IT Division from software development to take part in IT & Networking Projects, and, made this as a thrust area of development. These initiatives have paid rich dividends, and, have pitch-forked the Company as a High-Tech Company with a progressive outlook and capable of operating in cutting-edge technologies like Fibre To The Home (FTTH), Lawful interception, Next Generation Networks (NGN), IT consultancy, e-Governance etc. The total turnover expected from IT projects in 2009-10 is Rs.120.00 crore.

Order Booking 2009 –10

During the year 2009-10, the Company has kept the target for order bookings at Rs.700 crore. Till August 2009, the company had already secured orders of Rs.485 crore. The major orders booked during the year are as under:

- Company has secured Network Maintenance project MOC-PTT-803 (NMP) valued at Rs.43.55 crore in Kuwait.
- Construction & Upgradation of Hilepani-Diktel Road in Nepal valued Rs.25.50 crore.
- Installation, Integration, Testing and Commissioning of FOC Cable by Omantel valued Rs.13.29 crore.
- OSP works for STC Mobily, KSA valued Rs.9.00 crore.
- Consultancy service for Project management for Paradip Refinery Project, Orissa valued at Rs.4.76 crore.
- Supply, Installation and commissioning of pre paid billing solution in NIB-II project valued at Rs. 4.50 crore.
- Satellite O & M project of STC valued at Rs. 3.22 crore.
- ESIC-hospital construction at Okhla, New Delhi valued at Rs.166.00 crore.
- Widening/ Improvement of Dharasu-Gangotri Road in Uttarakhand valued at Rs. 23.42 crore.
- Construction of Auditorium at Haridwar valued at Rs.14 crore.
- Architectural finishing and plumbing works at five elevated stations – DMRC valued at Rs.19.46 crore.
- NIB AMC contract for BSNL valued at Rs. 42 crore

Joint Venture:

TCIL has the following Joint Venture companies:

- ICSIL: Intelligent Communication Systems India Ltd. TCIL has a shareholding of 36% in this company
- TBL: TCIL Bellsouth Ltd. TCIL's share in the equity of the company is Rs.84 lakhs.
- TTL: Tamilnadu Telecommunications Ltd. TCIL has an investment of Rs.6.95 crore in TTL.
- UTL: United Telecom Ltd. in association with MTNL, VSNL and Nepal Ventures Pvt. Ltd (NVPL).
- BHL: Bharti Hexacom Ltd. TCIL has a shareholding of 30% in this company.
- TSCL: TCIL Saudi Co. Ltd. TCIL's equity is 40% in the company.
- TCIL Oman Ltd: TCIL's shareholding in this company is 70%

Consolidated financial results of JV companies:

(Rs. in Crore)

Joint Venture Company	Turnover		Profit		TCIL's Share			
					Turnover		Profit	
	2009-10	2010-11 (Est.)	2009-10	2010-11 (Est.)	2009-10	2010-11 (Est.)	2009-10	2010-11 (Est.)
TCIL	688.00	760.00	9.00	10.00	688.00	760.00	9.00	10.00
ICSIL	20.00	30.00	1.00	1.50	20.00	30.00	1.00	1.50
TBL	0.03	0.03	(0.16)	(0.15)	0.01	0.01	(0.07)	(0.07)
TTL	41.41	60.93	0.82	2.59	12.70	18.69	0.25	0.79
BHL	2097.34	2107.07	547.95	557.95	629.00	632.00	164.37	167.29
UTL	76.04	83.64	1.68	1.68	20.29	22.30	0.45	0.49
Total	**2922.82**	**3041.67**	**560.29**	**560.29**	**1370.00**	**1463.00**	**175.00**	**180.00**

4.7.5 DOT Schemes

4.7.5.1 OFC based network for Defence Services

Name of the Project: OFC Project for the Armed Forces for release of Spectrum: The following activities have been completed for the Defence Project for the said period.

4.7.5.1.1 It may be mentioned that a Telecom Commission memo was prepared for the approval of the consolidated OFC project for the Defence project, according to the decision of the GoM on 'vacation of spectrum and finding resources' and subsequent MoU signed between DoT and MoD dated 22/5/2009. BSNL was asked to prepare the estimate in consultation with the armed forces. As per the specifications of the Armed forces, BSNL submitted an estimate of Rs.9970.16 Crore for this project. This estimate also included Rs.1077.16 Crore proposed earlier for the Air Force Component

4.7.5.1.2 The Full Telecom Commission met on 28.8.2009 to give approval for the project. The Telecom Commission has observed that the detailed project report (DPR) for the exclusive OFC project for the Armed forces be examined by an Inter Ministerial group and the proposal be resubmitted for the Full Telecom Commission.

4.7.5.1.3 Accordingly, BSNL was requested to submit a DPR for the Defence Project. DPR for dedicated OFC network for Defence Services was jointly prepared by BSNL in consultation with Ministry of Defence. An Inter-Ministerial Group (IMG) was constituted with members from DoT, Department of Economic Affairs, MoD and Planning Commission. The IMG made the following recommendations:

i) The DPR submitted by the BSNL may be accepted.
ii) The project cost component of Army and Navy which is Rs. 8893 crore as per DPR submitted by BSNL includes tentative Right of Way (RoW) charges for Rs. 400 crores. There can be further reduction in the project cost as well as roll out time in case one time RoW waiver is granted for this project.

4.7.5.1.4 The Full Telecom Commission in its meeting held on 23 November 2009 approved the proposal of laying of alternate communication network for Defence Services for release of spectrum, subject to the following modifications.

i) The Right of Way (RoW) charges would be limited to restoration work only and would be Rs. 200 crores or the actual amount paid instead of Rs. 400 crores in the DPR at present. The project cost would accordingly change.

ii) The implementation cost of BSNL would be 7 ½ % instead of 15% of the total cost. Thus the implementation cost payable to BSNL would work out to 7 ½% of Rs. 7533 crores or Rs. 565 crores. Thus the total cost of the network for Army and Navy would be Rs. 8098 crores. This would include taxes like service tax but no license fee would be payable on this amount by BSNL.

iii) The project would be completed in a period of 36 months.

iv) The procurement for network requirements, e.g. router, switches, servers and optical fiber cable (OFC) etc, may be done through a transparent and competitive bidding process.

v) The OFC network for Defence would be implemented as a mission-mode project with CMD, BSNL as the Mission Director and one representative each from the MoD and DoT on the Mission Team.

4.7.5.1.5 The revised project cost of the exclusive, dedicated OFC network for Army and Navy is:

Particulars	**Cost**
Cost of equipment, OFC, Installation etc.	Rs. 7333 crore
Restoration Charges	Rs. 200 crore
Implementation cost (@ 7.5% of Rs. 7533 crore)	Rs. 565 crore
Total Cost of OFC for Army & Navy Network	Rs. 8098 crore

4.7.5.1.6 Approval of CCI

A note was submitted seeking approval of Cabinet Committee on Infrastructure (CCI) on the following proposals:

i) Approval of setting up of an alternate exclusive, dedicated OFC based communication network for Defence services for release of spectrum.

ii) Financial approval of Rs. 9175.16 Crore (Rs. 1077.16 Cr for Air Force and Rs. 8098.00 Cr. for Army and Navy) for laying of alternate communication network for Defence Services in a period of 36 months and approved budgeting of the same in the budget of DoT.

iii) The assets created will belong to DoT during the currency of the project and after completion of the Project these assets will be transferred to Ministry of Defence as book transfer.

iv) The Cabinet Committee on Infrastructure (CCI) in its meeting held on 3rd December, 2009 approved the above proposal in total.

4.7.5.1.7 High Level monitoring Committee: A high level Monitoring committee under the chairmanship of Cabinet Secretary is reviewing the progress of the work. In the second meeting of the high

level committee, chaired by Dr.Sam Pitroda on 12/11/2009 has directed that the OFC project should be implemented as Mission-mode project with CMD BSNL as the Mission Director and one representative each from MoD and DoT.

4.7.5.2 Undersea Cabling between Mainland and Andaman & Nicobar Islands (UMA&N)

In order to provide an alternate redundant path to avoid communication black out in the event of an unforeseen natural calamity/disaster such as tsunami, earthquake etc it was felt eminently desirable to have a submarine cable link from mainland to Andaman & Nicobar Island. The need for an alternate and more importantly reliable communication link was also due because of the strategic location and importance of the islands. Accordingly a proposal was initiated to lay a submarine cable to Port Blair from Chennai and further to Car Nicobar, Hutbay, Kamorta and Campbell bay. Later on it was decided that a branching cable (spur route) shall be laid to Port Blair and Car Nicobar islands from the international cable which BSNL/MTNL are considering to lay towards SE Asia from the Eastern coast (Digha in West Bengal) of India, as the earlier stand-alone route was not techno-economically feasible. This also reduced the estimated cost considerably. The Detailed Project Report (DPR) has been approved by the Telecom Commission. The allocated budget for the project for the year 2009-10 is Rs 52 crore. The total cost of the scheme is Rs 522.06 crores and it needs to be approved by the Cabinet Committee on Economic Affairs (CCEA). Accordingly a draft note for CCEA has been prepared and the same has been forwarded for Inter-ministerial consultation.

The details of the achievements under these projects for the years 2008-09 and 2009-10 (upto December 2009) are placed at **Annexure – "R".**

Annexure – L

TELECOMMUNICATION ENTINEERING CENTRE
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
A. Core Activities (2008-09)							
1	New Generic Requirements, interface requirements and Service requirements	Preparations of new GRs/IRS	…	25		30	
2	Review of GRs/IRs	Revision of existing GRs/IRs	…	27		42	
3	GR amended		…			9	
4	Preparation of Test Schedule3 / Test Procedure + TSTP for CABs	Preparation of Test Schedule	…	46+11		73	
5	White Papers		…	21		18	
6	Interface Approval Issued		…	Not defined		186	
7	Certificate of Approval		…	Not defined		87	
B. Ongoing Project Activities (2008-09)							
1	Procurement of testing tools and accessories for CDMA	Procurement of drive test tools and CDMA-2000 1-X subscriber card and other accessories	0.00	Completion of Project	Project completed	As per PE revised for Rs.0.0624 crore. The Project is completed	
	Total (B)		**0.00**				

[contd..]

TELECOMMUNICATION ENTINEERING CENTRE
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
C. New Project Activities (NGN Test Labs) (2008-09)							
1	Transport Lab	To carry out testing and certification of NGN complaint transport equipment	1.00	Establishment of Lab		1. SFC approved by DoT in Jan 2009 2. RFP is being finalized	
2	NE Region	Satellite Based Broadband Network in NE Region	0.01	Installation of VSATs and VSAT Equipment at N.E. Region		1. Proposal approved by DoT 2. Budget Estimates is approved by competent authority 3. Allocation of 20 each Sites received from state of Meghalaya & Sikkim, Allocation of sites still awaited from state of Manipur 4. 3 VSATs have been installed in Sikkim 5. VSAT equipment for 41 sites dispatched likely to be commissioned by May 2009	
	Total (C)		**1.01**				
	Grand Total (B) + (C)		**1.01**				

TELECOMMUNICATION ENTINEERING CENTRE
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
A. Core Activities (2009-10)							
1	New Generic Requirements, Interface Requirements and Service Requirements	Preparations of new GRs/IRs		25		5	
2	Review of GRs/IRs	Revision of existing GRs/IRs		46		16	
3	Preparation of Test Schedule / Test Procedure + TSTP for CABs	Preparation of Test Schedule		71		21	
4	White Paper			14			

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TELECOMMUNICATION ENTINEERING CENTRE
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks /Risk Factors
1	2	3	4	5	6	7	8
B. Ongoing Project Activities (NGN Test Labs) (2009-10)							
1	NGN Labs	To carry out testing and certification of NGN complaint transport equipment	1.90	Establishment of Lab			
2	NE Region	Satellite Based Broadband Network in NE Region		Installation of VSATs and VSAT Equipment in N.E. Region		Out of 50 VSATs planned for the NE region 20 VSATs in Sikkim, 20 in Meghalaya and 1 in TEC, New Delhi have installed	
3	Procurement of PCs, Laptops for Office automation	Upgradation of TEC					
4	SAR Lab	To carry out testing and certification of mobile instruments					
5	Attending Meetings of Study Groups in ITU-T/R/D in foreign countries	To update the knowledge of TEC personnel to install and operate NGN Labs					
6	Membership Fee						
	Total (B)		**1.90**				

Annexure – M

WIRELESS PLANNING CO-ORDINATION
Performance for the year 2008-09

(Rs. in Crore)

S. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	National Radio Spectrum Management and Monitoring System (NRSMMS)	Wrap up of the project and monitoring of setup during Defect Liability period	9.70	Completion of spill over of work Completion of formalities for wrap up of the project Making payment of outstanding dues of 2007-08 Completion of formality towards finalization of AMC (Annual Maintenance Contract) for first year Creation of separate cell for monitoring of complete setup during defect liability period and thereafter		1. Completion of Operational Acceptance Test of National Radio Spectrum Management and Monitoring System (NRSMMS), the final activity of the project. The Fixed and V/UHF part of the project stands completed & closed. 2. The Defect Liability period of NRSMMS has commenced from October 15, 2008.	
		Total	**9.70**				

WIRELESS PLANNING CO-ORDINATION

Performance for the year 2009-10 (up to 31st December 2009)

(Rs. in Crore)

S. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	National Radio Spectrum Management and Monitoring System (NRSMMS)	Completion of Defect Liability period and Commencement of First year Annual Maintenance Contract and its monitoring	4.00	Monitoring of AMC of NRSMMS. Commencement of first year of annual maintenance contract for NRSMMS	During the plan period	a) Completion of Operational Acceptance Test of National Radio spectrum Management and Monitoring system (NRSMMS), the final activity of the project. The fixed and V/UHF part of the project stands completed & closed b) Completion of Defect Liability period of NRSMMS on October 15, 2009 c) Making the spillover payments	
		Total	**4.00**				

Annexure – N

WIRELESS MONITORING ORGANISATION
Performance for the year 2008-09

(Rs. in Crore)

S. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	**Tech. Schemes** Creation of Project Implementation Unit (PIU)	To implement the schemes at S.No.3 & 4 given below	0.66	Salary & office expenses only	Timely Implementation of schemes at S.No.3 & 4 given below	Nil	Case under the process of administrative approval & financial concurrence
2	Augmentation of Training Facilities	To procure technical literature/ development kits	0.75	Procurement of technical literature, software and hardware development kits	During the F.Y. 2008-09	MATLAB software procured	
3. Expansion of Monitoring Facilities							
3.1	Establishment of 6 additional Monitoring Stations at Bhubaneswar, Dehradun, Lucknow, Patna, Raipur & Vijayawada	To cover the uncovered states/cities	0.75	Additional 6 Wireless Monitoring Stations will be established	Work will be taken up to establish all the 6 WMS	Nil	Allotment of land under active consideration of State governments. Secretary (T) has written to Chief Secretaries of states.

Contd...]

WIRELESS MONITORING ORGANISATION
Performance for the year 2008-09

(Rs. in Crore)

S. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
3.2	Regional Maintenance Centre (RMC)	To procure hardware & software for use in Integration & Testing of Monitoring Facilities	0.00	Procurement of Hardware and Software	During the F.Y. 2008-09	Nil	Scheme could not be taken up due to staff constraints.
3.3	Augmentation/ Up-gradation of Microwave Terminals MWT (1 GHz-40GHz)	Procurement of 20 MWT's to augment monitoring facilities up to 40 GHz for 20 WMS's	3.00	To develop one Pilot MWT.	During the F.Y. 2008-09	Nil	Approval of competent authority is being sought
3.4	Satellite Monitoring Earth Station	To upgrade/renovate & replace other antenna subassemblies at ISMES Jalna	0.84	Procurement of required equipment & accessories		Nil	Approval of competent authority is being sought

[Contd..]

WIRELESS MONITORING ORGANISATION
Performance for the year 2008-09

(Rs. in Crore)

S. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (RE)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
4	Augmentation/ Up-gradation of Wireless Monitoring Facilities	To up-grade monitoring facilities for 2G/3G monitoring set up, HF/VHF DSC Equipment	3.00	Procurement of specialized monitoring equipment for 2G&3G, HF&VHF, DSC , packet radio communication decoders, antenna systems etc.	Process of up-gradation to be spread over current 5 year plan 2007-12	Nil	Approval of competent authority is being sought
	Total (A)		**9.00**				
5. Civil Works							
5.1	Civil Works	Miscellaneous Civil works such as procurement of land, construction of office building, staff quarters and ancillaries	5.40	Procurement of land & civil construction works	Procurement of land & civil construction works	4.15 cr has been spent	Payments to CPWD as per claims. Refer 3.1 above.
5.2	Civil Works at N.E. Region	N.E. Region, WMS Dibrugarh	0.60	Procurement of land & civil construction works	Procurement of land & civil construction works	Nil	Case for allocation of land for WMS Dibrugarh under process by the State Govt.
	Total (B)		**6.00**				
	Grand Total (A) + (B)		**15.00**				

[Contd…Annexure – N

WIRELESS MONITORING ORGANISATION
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	**Tech. Schemes** Creation of Project Implementation Unit (PIU)	To implement the schemes at S.No.3 & 4 given below	1.00				Not approved by TC
2	Augmentation of Training Facilities	To procure technical literature/ development kits				Digital Oscilloscope procured	
3. Expansion of Monitoring Facilities							
3.1	Establishment of 6 additional Monitoring Stations at Bhubaneswar, Dehradun, Lucknow, Patna, Raipur & Vijayawada	To cover the uncovered states/cities		Additional 6 Wireless Monitoring Stations will be established	Work will be taken up to establish all the 6 WMS		Formal order issued in November 2009
3.2	Regional Maintenance Centre (RMC)	To procure hardware & software for use in Integration & Testing of Monitoring Facilities					Scheme dropped due to budgetary constraints
3.3	Augmentation/ Up-gradation of Microwave Terminals MWT (1 GHz-40GHz)	Procurement of 4 SHF monitoring facilities & 1 portable SHF facility up to 40 GHz					
3.4	Satellite Monitoring Earth Station	To renovate & replace other antenna subassemblies at ISMES Jalna				LNAs/Feed aperture sheets replaced	

Contd...]

WIRELESS MONITORING ORGANISATION

Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
4	Augmentation/ Up-gradation of Wireless Monitoring Facilities	To up-grade monitoring facilities for 2G/3G monitoring set up, HF/VHF DSC Equipment				Procurement of desk top amplifier and add-on-cards s/w for spectrum analyzer approved by WPF	
	Total		**1.00**				
5	Civil Works	Miscellaneous Civil works such as procurement of land, construction of office building, staff quarters and ancillaries	**5.00**				
	Grand Total		**6.00**				

Annexure - O

UNIVERSAL SERVICE OBLIGATION FUND
Performance during 2008-09 and 2009-10 (upto Dec. 2009)

(Rs. in crore)

Sl. No.	Name of Activity	Total physical targets for the scheme		Physical outcome by 31-3-09 (Progressive)	Financial Year 2008-09		Financial Year 2009-10								Remarks
							Annual Targets				Actual Performance upto Dec. 09		Projected Performance from Jan'10 to March '10		
		Original	Revised		Financial Outlay	Physical Outcome	Financial Original	Financial Revised	Physical-Original	Physical-Revised	Financial	Physical	Financial	Physical	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Operation & Maintenance of VPTs	502523	502523	-	88.18		33	75			58		17		Subsidy for Operation & Maintenance of existing VPTs as per Census 1991. [Refer Note 1]
2	Replacement of MARR VPTs (Total)	182766	185121	183865	176.48	775	130	170	1256	1256	135	656	35	600	Annual Equated Subsidy for MARR VPTs replaced prior to 01.04.2002 and those being replaced after 01.04.2002 [Refer Note 2]
3	Provision of RCPs	43409	40705	40689	8.86	1800	5	10	16	16	6	5	4	11	Equated subsidy for already installed RCPs and Front Loaded & Equated subsidy for new installations (Refer Note 3)

UNIVERSAL SERVICE OBLIGATION FUND
Performance during 2008-09 and 2009-10 (upto Dec. 2009)

(Rs. in crore)

Sl. No.	Name of Activity	Total physical targets for the scheme		Physical outcome by 31-3-09 (Progressive)	Financial Year 2008-09		Financial Year 2009-10								Remarks
							Annual Targets				Actual Performance upto Dec. 09		Projected Performance from Jan'10 to March '10		
		Original	Revised		Financial Outlay	Physical Outcome	Financial Original	Financial Revised	Physical-Original	Physical-Revised	Financial	Physical	Financial	Physical	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
4	VPTs in Uncovered villages	66822	62302	57181	18.65	3024 (including 442 on DSPT)	55	30	9641	5121	17	4005 (including 2807 on DSPT)	13	815 (including 647 on DSPT)	Equated subsidy for already installed VPTs and Front Loaded & Equated subsidy for new installations (Refer Note 4)
5	RDELs installed between 01.04.02 to 31.03.05	1865690	1865690	-	46.10	-	17	15	-	-	13	-	2	-	Equated subsidy for already installed RDELs (Refer Note 5)
6	RDELs installed between 01.04.05 and 31.03.07 (extended upto 31-03-2010)	Note 6.	Note 6.	6312457	507.24	2523219	465	465	2000000	1200000	374	736101	91	463899	Equated subsidy for already installed RDELs and front loaded and equated subsidy for new RDELs [Refer note 6].

UNIVERSAL SERVICE OBLIGATION FUND
Performance during 2008-09 and 2009-10 (upto Dec. 2009)

(Rs. in crore)

Sl. No.	Name of Activity	Total physical targets for the scheme		Physical outcome by 31-3-09 (Progressive)	Financial Year 2008-09		Financial Year 2009-10								Remarks
							Annual Targets				Actual Performance upto Dec. 09		Projected Performance from Jan'10 to March '10		
		Original	Revised		Financial Outlay	Physical Outcome	Financial Original	Financial Revised	Physical-Original	Physical-Revised	Financial	Physical	Financial	Physical	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
7	Shared Infrastructure Support (Towers & Mobile services) [Phase-I]	7440	7387	4755	4.49	4341	120	50	2685	2632	31	2201	19	431	Annual Equated Subsidy towards installation of towers and mobile services (Refer Note 7)
8	VPTs in the newly identified uncovered villages as per Census 2001	62443	62443	25432	0	25432	120	50	20000	20000	35	10607	15	9393	Front Loaded & Equated subsidy for new VPTs (Refer Note 8)
9	Support for Rural Wireline Household DELs installed prior to 01.04.2002	Note 9	Note 9		750.00		2000	1500			1158		342		Subsidy support to BSNL for operational sustainability of Rural Wireline Household DELs installed prior to 01.04.2002, for a period of 3 years w.e.f. 18.07.2008 subject to a ceiling of Rs. 2000 Crore per annum for the country. (Note 9)

UNIVERSAL SERVICE OBLIGATION FUND
Performance during 2008-09 and 2009-10 (upto Dec. 2009)

(Rs. in crore)

Sl. No.	Name of Activity	Total Physical Targets for the scheme		Physical Outcome by 31-3-09 (Progressive)	Financial Year 2008-09		Financial Year 2009-10								Remarks
							Annual Targets				Actual Performance upto Dec. 09		Projected Performance from Jan'10 to March '10		
		Original	Revised		Financial Outlay	Physical Outcome	Financial Original	Financial Revised	Physical-Original	Physical-Revised	Financial	Physical	Financial	Physical	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10	Shared Infrastructure Support (Towers & Mobile services) [Phase-II]	9000	-		0		0	0	-	-	0	-	0		Subsidy support towards installation of towers and provision of mobile services. (Refer Note 10)
11	Pilot Projects	5	5		0		2.5	0	-	-	0	-	0		Subsidy for deployment of new technological developments (Refer Note 11)
12	Wireline broadband connectivity in rural and remote areas	861459 BB & 27789 kiosks	861459 BB & 27789 kiosks	15779 BB & 1 kiosk	0	15779 BB & 1 kiosks	50	35	150000 BB	100000 BB & 100 kiosks	20	79232 BB & 3 Kiosks	15	20768 BB & 97 Kiosks	Provision of broadband connectivity through wireline. [Refer Note 12].

UNIVERSAL SERVICE OBLIGATION FUND
Performance during 2008-09 and 2009-10 (upto Dec. 2009)

(Rs. in crore)

Sl. No.	Name of Activity	Total Physical Targets for the scheme		Physical Outcome by 31-3-09 (Progressive)	Financial Year 2008-09		Financial Year 2009-10								Remarks
							Annual Targets				Actual Performance upto Dec. 09		Projected Performance from Jan'10 to March '10		
		Original	Revised		Financial Outlay	Physical Outcome	Financial Original	Financial Revised	Physical-Original	Physical-Revised	Financial	Physical	Financial	Physical	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
13	Wireless Broadband connectivity in Rural and Remote areas	5000 Blocks	5000 Blocks	-	0	-	0	0	1500 blocks	0	0	0	0	0	Provision of Broadband connectivity to Block HQs on wireless [Ref. Note 13]
14	Augmentation, Creation & Management of OFC Assam service area (earlier titled General Infrastructure: Equipment augmentation)	See Note 14	See Note 14	-	0	-	0	0	950 Blocks	Scheme modified	0	0	0	0	For provision augmented OFC Network in Assam [Ref. Note 14]
Total					**1600**		**2997.50**	**2400**			**1848**		**552**		

N.B. 1) In BE 2009-10 as well as in RE 2009-10 provision of 3000 cr. was made for various USO activities. However, allotment of Rs. 2400 cr. has been received. Accordingly the requirement of funds (col. 9) has been revised to Rs. 2400 cr.

2) The physical numbers during the quarter represent the number of facilities for which subsidy is to be paid during the following quarters including those existing at the beginning of the quarter and eligible for subsidy.

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

4) The financial outlay figures are estimated and subject to actual disbursement in arrears, based on timely submission of claims by USPs and number of facilities actually provided and/or working.

Note 1**:** Agreements for O&M were signed in March 2003 for the existing 502523 VPTs as per Census 1991 installed prior to 01.04.2002. In addition, the O&M is also to be paid for VPTs installed upto November 2004.

Note 2**:** Originally 186872 MARR VPTs were to be replaced and the same were reconciled to 182766 (47579+135187) in August 2007 and again to 185121 (47075+138046) in October 2008.

Note 3: Originally 46253 RCPs were to be provided. The same was reconciled to 43409 (BSNL: 21978, RCL: 21431) in January 2008 and again to 40705 (BSNL: 21958, RCL: 18747) in October 2008.

Note 4: Reconciliation have been carried out by M/s BSNL and the number of VPTs to be provided have been reduced by about 4520. As per reconciled figures, 62302 VPTs are to be provided out of which 3938 VPTs are to be provided on DSPTs as against original figure of 14183.

Note 5: Equated subsidy is to be paid for RDELs installed during the period 01-04-2002 to 31-03-05 during the validity period of the agreement i.e. 31.03.2010.

Note 6: All the RDELs installed upto 31.03.2010 in the eligible 1685 SDCAs are eligible for support

Note 7: Number of towers have been reduced from 7440 to 7387 as a result of dropping/ addition of towers as on 31.12.09.

Note 8: Agreements were signed on 27.02.2009 for installation of about 62443 VPTs. About 10 to 15% VPTs may have to be provided using DSPTs.

Note 9: A MoU has been signed with BSNL on 12.03.2009 wherein subsidy support of Rs. 2000 Crore per annum for a period of three years w.e.f. 18.07.2008 shall be given from USOF to BSNL for operational sustainability of their Rural Wireline Household DELs installed prior to 01.04.2002 in lieu of ADC being phased out.

Note 10: Scheme is under consideration of the Government. The tentative number of towers to be set up is 9000.

Note 11: Successful Technology Providers declared. MoU is to be signed shortly.

Note 12: An Agreement was entered into with M/s BSNL on 20-01-2009 for provision of broadband connectivity to individual users and Govt. Institutions in rural and remote areas on wireline media.

Note 13: The scheme would cover provision of broadband connectivity to block HQs. on wireless media.

Note 14: The Agreement for the scheme is to be signed with M/s BSNL shortly.

Abbreviations used:

VPT: Village Public Telephone, **MARR VPT:** Multi Access Radio Relay VPTs, **RCP:** Rural Community Phones, **USP:** Universal Service Provider

DELs: Direct Exchange Lines, **DSPT:** Digital Satellite Phone Terminal, **ADC :** Access Deficit Charges, **OFC :** Optical Fibre Cable

Annexure – P

BHARAT SANCHAR NIGAM LIMITED
Performance for the year 2008-09

(Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09	Quantifiable Deliverables	Actual Achievement during 2008-09	Processes/ Timelines	Remarks / Risks Factors
1(a)	DELs on Mobile	To provide DELs on demand	Annual Outlay for 6236 cr.	Total 105 lakh	105.02 Lakh		
			1st Qtr. 624 cr.	1st Quarter 10.5 lakh	11.54 Lakh		
			2nd Qtr. 1247 cr.	2nd Quarter 21.0 lakh	18.04 Lakh		
			3rd Qtr. 1871 cr.	3rd Quarter 31.5 lakh	21.95 Lakh		
			4th Qtr. 2494 cr.	4th Quarter 42.0 lakh	53.49 Lakh		
1(b)	DELs on landline & WLL	To provide DELs on demand	Annual Outlay for 3906 cr.	Total -8.93 lakh	-13.50 Lakh		
			1st Qtr. 391 cr.	1st Quarter -0.89 lakh	-6.71 Lakh		
			2nd Qtr. 781 cr.	2nd Quarter -1.79 lakh	-6.40 Lakh		
			3rd Qtr. 1172 cr.	3rd Quarter -2.68 lakh	-4.52 Lakh		
			4th Qtr. 1562 cr.	4th Quarter -3.57 lakh	4.13 Lakh		
1(c)	Internet connections		Annual Outlay for 355 cr.	Total 5.25 lakh	1.72 Lakh		
			1st Qtr. 36 cr.	1st Quarter 0.52 lakh	0.70 Lakh		
			2nd Qtr. 71 cr.	2nd Quarter 1.05 lakh	0.25 Lakh		
			3rd Qtr. 106 cr.	3rd Quarter 1.58 lakh	0.22 Lakh		
			4th Qtr. 142 cr.	4th Quarter 2.10 lakh	0.54 Lakh		

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BHARAT SANCHAR NIGAM LIMITED
Performance for the year 2008-09

(Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09	Quantifiable Deliverables	Actual Achievement during 2008-09	Processes/ Timelines	Remarks / Risks Factors
2	Broadband connections	To provide Multiplay i.e. voice, video & data on demand and allied services	Annual Outlay for 2813 cr.	Total 14.7 lakh	15.25 Lakh		
			1st Qtr. 281 cr.	1st Quarter 1.5 lakh	2.95 Lakh		
			2nd Qtr. 563 cr.	2nd Quarter 2.9 lakh	3.60 Lakh		
			3rd Qtr. 844 cr.	3rd Quarter 4.4 lakh	3.18 Lakh		
			4th Qtr. 1125 cr.	4th Quarter 5.9 lakh	5.52 Lakh		
3	TAX (Kilo Circuits)	To provide connectivity for additional exchange equipment & provide POIs on demand	Annual Outlay for 1176 cr.	Total 1260 KCTs	148 KCTs		
			1st Qtr. 118 cr.	1st Quarter 126 KCTs	27 KCTs		
			2nd Qtr. 235 cr.	2nd Quarter 252KCTs	0 KCTs		
			3rd Qtr. 353 cr.	3rd Quarter 378 KCTs	40 KCTs		
			4th Qtr. 470 cr.	4th Quarter 504 KCTs	81 KCTs		
4	OFC (RKMs)	To provide Transmission network for new exchange equipment & provide Bandwidth on demand	Annual Outlay for 4105 cr.	Total 29925 RKMs	44266 RKMs		
			1st Qtr. 411 cr.	1st Quarter 2992 RKMs	3905 RKMs		
			2nd Qtr. 821 cr.	2nd Quarter 5985 RKMs	5055 RKMs		
			3rd Qtr. 1231 cr.	3rd Quarter 8978 RKMs	7351 RKMs		
			4th Qtr. 1642 cr.	4th Quarter 11970 RKMs	27955 RKMs		

BHARAT SANCHAR NIGAM LIMITED
Performance for the year 2009-10 (up to December 2009)

(Rs. in crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (IEBR)	Quantifiable Deliverables Physical Targets	Actual Achievement (Physical)	Processes/ Timelines	Remarks/ Risks/ Constraints
1(a)	GSM Mobile Capacity (Lakh lines)	To provide DELs on demand	Annual Outlay for 7843 cr.	Total 200 lakh	75.40 lakh		
			1st Qtr. 784 cr.	1st Quarter 20 lakh	23.44 lakh		
			2nd Qtr. 1569 cr.	2nd Quarter 40 lakh	27.64 lakh		
			3rd Qtr. 2353 cr.	3rd Quarter 60 lakh	24.32 lakh		
			4th Qtr. 3137 cr.	4th Quarter 80 lakh			
1(b)	WLL Capacity (Lakh lines)	To provide DELs on demand	Annual Outlay for 343 cr.	Total 10 lakh	4.11 lakh		
			1st Qtr. 34 cr.	1st Quarter 1 lakh	0.83 lakh		
			2nd Qtr. 69 cr.	2nd Quarter 2 lakh	0.80 lakh		
			3rd Qtr. 103 cr.	3rd Quarter 3 lakh	2.48 lakh		
			4th Qtr. 137 cr.	4th Quarter 4 lakh			
2	Broadband Capacity (Lakh lines)	To provide Multiplay i.e. voice, video & data on demand and allied services	Annual Outlay for 1643 cr.	Total 25 lakh	16.75 lakh		
			1st Qtr. 164 cr.	1st Quarter 2.5 lakh	7.85 lakh		
			2nd Qtr. 329 cr.	2nd Quarter 5.0 lakh	3.60 lakh		
			3rd Qtr. 493 cr.	3rd Quarter 7.5 lakh	5.34 lakh		
			4th Qtr. 657 cr.	4th Quarter10 lakh			
3	TAX Capacity (Kilo Circuits)	To provide connectivity for additional exchange equipment & provide POIs on demand	Annual Outlay for 528 cr.	Total 1000 KCTs	3.00		
			1st Qtr. 53 cr.	1st Quarter 100 KCTs	0.00		
			2nd Qtr. 106 cr.	2nd Quarter 200 KCTs	3.00		
			3rd Qtr. 158 cr.	3rd Quarter 300 KCTs	0.00		
			4th Qtr. 211 cr.	4th Quarter 400 KCTs			
4	OFC (RKMs)	To provide Transmission network for new exchange equipment & provide Bandwidth on demand	Annual Outlay for 3658 cr.	Total 25,000 RKMs	22756.80		
			1st Qtr. 366 cr.	1st Quarter 2,500 RKMs	5021.87		
			2nd Qtr. 732cr.	2nd Quarter 5,000 RKMs	7600.39		
			3rd Qtr. 1098 cr.	3rd Quarter 7,500 RKMs	10134.54		
			4th Qtr. 1463 cr.	4th Quarter 10,000 RKMs			

Annexure – Q

MAHANAGAR TELEPHONE NIGAM LIMITED
Performance for the year 2008-09

(Rs. in Crore)

S. No	Name of Scheme/programme	Objective/ Outcome	Outlay 2008-09			Target		Achievement		Remark
			Non Plan budget	Plan Budget	Complementary Extra Budgetary Resources	Physical		Financial (Rs in crore)	Physical	
						BE	RE			
1	2	3	4(i)	4(ii)	4(iii)	6		7	8	9
1	Switching (Including TAX / Tandem / NGN) and access lines (including CDMA/WLL handsets, GSM) in existing and new areas	Increase in Net Switching Capacity			1184.23	1000K	1000K	740.66	1000K	Target achieved
2	Deployment of DLC/DSLAM/ FTTH& Metro Ethernet					500K	500K		413.15K	-
3	IT related services	Convergent billing			110.05	-	-	38.39	-	-
4	Expansion in New Services Areas abroad and National acquisitions	Service in overseas operations			10.00	-	-	10.35	-	-
	Total				**1304.28**	-	-	**789.40**	-	-

MAHANAGAR TELEPHONE NIGAM LIMITED
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No	Name of Scheme/programme	Objective/ Outcome	Outlay 2009-10			Target	Achievement		Remark
			Non Plan budget	Plan Budget	Complementary Extra Budgetary Resources	Physical	Financial (Rs in crore)	Physical	
1	2	3	4(i)	4(ii)	4(iii)	6	7	8	9
1	Switching (Including TAX / Tandem / NGN) and access lines (including CDMA/WLL handsets, GSM) in existing and new areas	Increase in Net Switching Capacity, Broadband ports, Expansion of Fibre network			1083.55	1000K	643.94	167.604K	
2	Deployment of DSLAM/ FTTH ports					500K		133.58K	
3	Optical Fibre Cable (in Fibre Km)					120000		25245.46	
3	IT related services	Convergent billing			28.45				
4	Expansion in New Services Areas abroad and National acquisitions	Service in overseas operations			240.00				
	Total				**1352.00**		**643.94**		

Annexure – R

DOT Schemes
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	Undersea Cabling between Mainland and Andaman & Nicobar (UMA&N)	To connect the Mainland with the Island of A&N	0.00	Laying of the undersea cable between Mainland and A & N Island		Detailed Project Estimated is being worked out	To commence the work in 2009-10
2	Technology Development & Investment Promotion (TDIP)	Providing technical assistance for promoting investment in the manufacturing sector, export of telecom equipments, Organizing Telecom Events, Review the progress of TCoE	2.00	Organizing Telecom Events, Review the progress of TCoE, Set up of TCoE Coordination Centre to facilitate coordination activities and sharing knowledge.	During 2008-09	Hosted India Telecom 2008 Event. TCoE Coordination Centre at CDOT Campus has been set up. TCOE website http://www.tcoe.in has been launched.	
3	OFC based Network for Defence Services (DS)	To setup alternate network for Defence Services for releasing spectrum	561.17	Laying of Optical Fibre Cable for Defence Services for providing alternate network	Ongoing work	a) Commissioning of MPLS Network for 51 sites completed. b) PO for SATCOM Equipment placed, c) Infrastructure work (Civil) completed for 44 sites. d) Infrastructure work (electrical) completed for 47 sites.	

DOT Schemes
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	Undersea Cabling between Mainland and Andaman & Nicobar (UMA&N)	To connect the Mainland with the Island of A&N	52.00	Laying of the undersea cable between Mainland and A & N Island		Draft note for CCEA has been prepared and sent for Inter-Ministerial Consultation	
2	Technology Development & Investment Promotion (TDIP)	Providing technical assistance for promoting investment in the manufacturing sector, export of telecom equipments, Organizing Telecom Events, Review the progress of TCoE	3.00	This includes funding for participation in ITU Telecom World; India Telecom 2009; Telecom Export Promotion Council (TEPC); 7 TCoEs & 1 Telecom Centre of Excellence for Spectrum	Ongoing work		
3	OFC based Network for Defence Services (DS) [Air Force]	To setup alternate network for Defence Services for releasing spectrum	211.85	Laying of Optical Fibre Cable for Defence Services for providing alternate network	Ongoing work	103 sites commissioned; Transmission provided for 145 sites; Out of 77 antenna erected 5 commissioned with NOCC Radiation Pattern Test; Equipment installation for upgraded sites completed at 67 sites and for new sites completed for 55; BEUs received by IAF	

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 Telecommunity, TRAI and Telecom. Dispute Settlement and Appellate Tribunal etc. for the financial years 2008-09, 2009-10 and 2010-11.

(Rs. in crore)

Budgetary Provision	BE 2008-09			RE 2008-09			Actual 2008-09		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
MH 3451-Secretariat Economic Services:									
(a) Secretariat (MOC)	0.00	6.22	6.22	0.00	6.56	6.56	0.00	6.48	6.48
(b) Directorate General Administration	0.00	76.47	76.47	0.00	96.50	96.50	0.00	82.15	82.15
(c) Administrator USO Fund	0.00	3.30	3.30	0.00	3.74	3.74	0.00	2.11	2.11
(d) C-DOT	137.00	0.00	137.00	110.00	0.00	110.00	109.00	0.00	109.00
(e) TEC	0.25	7.58	7.83	0.01	10.04	10.05	0.01	9.56	9.57
(f) VTM	0.00	15.15	15.15	0.00	17.77	17.77	0.00	11.76	11.76
(g) Telecom Testing & Security Certification Centre	5.00	0.00	5.00	3.00	0.00	3.00	3.01	0.00	3.01
Total -MH 3451	142.25	108.72	250.97	113.01	134.61	247.62	112.02	112.06	224.08
MH 2071 – Pension									
Pension	0.00	1590.00	1590.00	0.00	1862.00	1862.00	0.00	1982.81	1982.81
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	1.00	2.38	3.38	1.20	3.94	5.14	0.00	2.43	2.43
(b) Wireless Monitoring Services	7.50	13.35	20.85	6.00	18.49	24.49	0.14	15.28	15.42
(c) International Co-operation (ITU,APT, CTO)	0.00	14.30	14.30	0.00	14.30	14.30	0.00	15.25	15.25
(d) Transfer to Telecom Authority of India General Fund	3.00	24.80	27.80	3.00	24.80	27.80	3.00	24.80	27.80
(e) Telecom Dispute Settlement and Appellate Tribunal	1.00	5.00	6.00	1.30	5.75	7.05	1.30	5.65	6.95
(f) Financial reliefs to ITI Limited	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(g) Compensation to I.T.I	0.00	6.45	6.45	0.00	9.11	9.11	0.00	15.56	15.56
(h) Transfer to USO Fund	0.00	2000.00	2000.00	0.00	1600.00	1600.00	0.00	1600.00	1600.00
(i) Compensation to Service Providers	0.00	2000.00	2000.00	0.00	1600.00	1600.00	0.00	1600.00	1600.00
(j) Technology Development & Investment Promotion	2.00	0.00	2.00	2.00	0.00	2.00	1.60	0.00	1.60
Total - MH 3275	14.50	4066.28	4080.78	13.50	3276.39	3289.89	6.04	3278.97	3285.01
MH 2552 -Provision for North East Region	17.50	0.00	17.50	14.82	0.00	14.82	0.00	0.00	0.00
Total - Revenue Section	174.25	5765.00	5939.25	141.33	5273.00	5414.33	118.06	5373.84	5491.90

(Rs. in crore)

	BE 2008-09			RE 2008-09			Actual 2008-09		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
Capital Section:									
MH 5275 - Capital Outlay on Other Communication Services									
(a) TEC	8.75	0.00	8.75	0.90	0.00	0.90	0.08	0.00	0.08
(b) WPC	2.60	0.00	2.60	7.50	0.00	7.50	3.55	0.00	3.55
(c) WMO	5.40	0.00	5.40	5.50	0.00	5.50	4.15	0.00	4.15
(d) Undersea Cabling -Land & A&N	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00
(e) Net work for Defence Services	152.00	0.00	152.00	505.09	0.00	505.09	561.17	0.00	561.17
(f) TRAI	7.00	0.00	7.00	7.00	0.00	7.00	0.00	0.00	0.00
Total - MH - 5275	180.75	0.00	180.75	525.99	0.00	525.99	568.95	0.00	568.95
MH- 6859 - Loans to I.T.I Ltd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	125.00	125.00
MH 4552 -Provision for North East Region	20.00	0.00	20.00	57.68	0.00	57.68	0.00	0.00	0.00
Total - Capital Section	200.75	0.00	200.75	583.67	0.00	583.67	568.95	125.00	693.95
Total Telecommunications Services	375.00	5765.00	6140.00	725.00	5273.00	5998.00	687.01	5498.84	6185.85

(Rs. in crore)

	BE 2009-10			RE 2009-10			BE 2010-11		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
Budgetary Provision									
MH 3451-Secretariat Economic Services:									
(a) Secretariat (MOC)	0.00	9.76	9.76	0.00	7.29	7.29	0.00	10.90	10.90
(b) Directorate General Administration	0.00	140.48	140.48	0.00	109.01	109.01	0.00	159.81	159.81
(c) Administrator USO Fund	0.00	5.90	5.90	0.00	3.62	3.62	0.00	4.16	4.16
(d) C-DOT	265.00	0.00	265.00	126.00	0.00	126.00	250.00	0.00	250.00
(e) TEC	0.00	12.42	12.42	0.00	10.60	10.60	0.00	12.47	12.47
(f) VTM	0.00	24.13	24.13	0.00	18.58	18.58	0.00	23.60	23.60
(g) Telecom Testing & Security Certification Centre	5.00	0.00	5.00	0.05	0.00	0.05	2.00	0.00	2.00
Total -MH 3451	270.00	192.69	462.69	126.05	149.10	275.15	252.00	210.94	462.94
MH 2071 – Pension									
Pension	0.00	1925.00	1925.00	0.00	2389.00	2389.00	0.00	2500.00	2500.00
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	0.00	6.68	6.68	0.00	14.52	14.52	0.00	13.43	13.43
(b) Wireless Monitoring Services	8.00	24.90	32.90	1.00	19.37	20.37	28.75	26.00	54.75
(c) International Co-operation (ITU,APT, CTO)	0.00	14.30	14.30	0.00	14.30	14.30	0.00	18.19	18.19
(d) Transfer to Telecom Authority of India General Fund	10.00	24.00	34.00	10.00	24.00	34.00	11.00	29.00	40.00
(e) Telecom Dispute Settlement and Appellate Tribunal	1.00	7.43	8.43	1.20	6.91	8.11	1.30	7.31	8.61
(f) Financial reliefs to ITI Limited	0.00	2820.00	2820.00	0.00	2820.00	2820.00	0.00	0.00	0.00
(g) Compensation to I.T.I	0.00	8.00	8.00	0.00	6.79	6.79	0.00	6.00	6.00
(h) Transfer to USO Fund	0.00	2400.00	2400.00	0.00	2400.00	2400.00	0.00	2400.00	2400.00
(i) Compensation to Service Providers	0.00	2400.00	2400.00	0.00	2400.00	2400.00	0.00	2400.00	2400.00
(j) Technology Development & Investment Promotion	3.00	0.00	3.00	3.00	0.00	3.00	3.00	0.00	3.00
Total - MH 3275	22.00	7705.31	7727.31	15.20	7705.89	7721.09	44.05	4899.93	4943.98
MH 2552 -Provision for North East Region	35.00	0.00	35.00	14.00	0.00	14.00	19.00	0.00	19.00
Total - Revenue Section	327.00	9823.00	10150.00	155.25	10243.99	10399.24	315.05	7610.87	7925.92

(Rs. in crore)

	BE 2009-10			RE 2009-10			BE 2010-11		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
Capital Section:									
MH 5275 - Capital Outlay on Other Communication Services									
(a) TEC	8.00	0.00	8.00	1.90	0.00	1.90	7.74	0.00	7.74
(b) WPC	1.00	0.00	1.00	4.00	0.00	4.00	0.50	0.00	0.50
(c) WMO	7.00	0.00	7.00	5.00	0.00	5.00	13.21	0.00	13.21
(d) Undersea Cabling -Land & A&N	61.00	0.00	61.00	52.00	0.00	52.00	161.84	0.00	161.84
(e) Net work for Defence Services	17.90	0.00	17.90	182.75	0.00	182.75	1319.66	0.00	1319.66
(f) TRAI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total - MH - 5275	94.90	0.00	94.90	245.65	0.00	245.65	1502.95	0.00	1502.95
MH- 6859 - Loans to I.T.I Ltd	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
MH 4552 -Provision for North East Region	8.10	0.00	8.10	29.10	0.00	29.10	181.00	0.00	181.00
Total - Capital Section	104.00	0.00	104.00	275.75	0.00	275.75	1684.95	0.00	1684.95
Total Telecommunications Services	431.00	9823.00	10254.00	431.00	10243.99	10674.99	2000.00	7610.87	9610.87

Position of Utilization Certificates: No utilization certificate for the Grants released up to 31.3.09 is outstanding.

CHAPTER – VI

REVIEW OF PERFORMANCE OF STATUTORY AND AUTONOMOUS BODIES

1. Telecom Regulatory Authority of India (TRAI)

A sum of Rs. 10 crores in RE (2009-10) under the Plan Budget was provided for TRAI. The Plan Budget consists of "Institutional Capacity Building Project" and "Provision of Land and Building for TRAI". The Institutional Capacity Building Project with provision of Rs.4 crores comprises of Consultancy Studies and International Training for officers and staff of TRAI. The Authority has undertaken one 'Institutional Capacity Building Project', fully funded by the Government of India under Plan Budget of DoT every year since 2005-06. This project is being carried out as part of the Capacity Building of the available human resources in TRAI to carry out its regulatory functions. The project has two components one relating to the Consultancy/Studies on Techno-regulatory issues and other relating to international training of officers on the regulatory issues. The telecom sector is rapidly changing and the advent of new technology always posses fresh regulatory challenges that need to be addressed as an effective regulator. This approach of proactive regulation is more important because telecom sector makes a perceptible impact and multiplier effect on the growth of overall economy of the country.

REVIEW OF PERFORMANCE

The Consultancies/Studies/Seminars being pursued under this project for the 2009-10 are as below:

- Survey/Study of Objective assessment of Quality of Service and Satisfaction Survey through an independent agency.
- Consultancy Study on "Transfer pricing in Telecom Sector"
- Consultancy for De-Novo exercise on non-CAS Tariff
- Web based GIS mapping for telecom infrastructure at village level
- Telecom Consumer Grievance Redressal Mechanism
- Procurement of dedicated server and relevant software for 'Do Not Call Registry/ Do Call Registry'
- Engagement of Consultant for creation of Telecom Index/Equity Beta
- Consultancy on assessment an effectiveness of Intelligence Network and Cable landing stations
- Engagement of consultant to carry out a Pilot Survey on the adoption and non-adoption of broadband services in India in select districts
- Building of judicial reference system
    - Self-sufficient Legal Library in Legal Division of TRAI
    - Purchase of Lexis Nexis on line (Global) SCC on line and Manupatra on line (two sets each)

- Litigation Management System
  - Development charges for Litigation Management Software to be installed in Legal Division
  - Dedicated Computer system for Litigation Management System

These consultancy studies are at various stages of processing. In respect of 'Survey/Study of Objective Assessment of Quality of Service and Satisfaction Survey through an independent agency', the agency has completed their survey/audit work in some of the areas. The Consultancy Studies on Transfer Pricing in Telecom Sector is at an advanced stage. Seminar on future telecom scenario and regulation will be organized in the last week of February 2009. The other projects/ studies will be completed well within the financial year 2009-10.

As regards the components relating to Provision of Land and Building for TRAI, the matter is being pursued with various land owning agencies with a view to obtain a suitable piece of land/office building. As the Fund could not be utilized the same was surrendered during the financial year 2008-09 and an amount of Rs 6.00 crore has been provided for 2009-10.

The details of performance for the year 2008-09 and 2009-10 (upto December 2009) are placed at **Annexure - "S"**.

2. Telecom Disputes Settlement & Appellate Tribunal (TDSAT)

The Plan expenditure of TDSAT is primarily for capacity building of the tribunal through undertaking study tours, conducting seminars in different parts of the country to raise awareness amongst the general public regarding dispute settlement, and upgradation of reference material in the tribunal.

The review of the performance for the year 2008-2009 and for the year 2009-2010 (upto December 2009) is placed at **Annexure – "T"**.

3. Centre for Development of Telematics (C-DOT)

Schemes / Project deliverables undertaken during FY 2009-2010 (upto December 2009)

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

  The scheme focuses on research and development in the area of optical and satellite to provide technology for high speed communication. Number of technology products has been developed and successfully field tried with technology approval for induction in the network. Presently development focus is on GPON (Gigabit Passive Optical Network) system to provide end-to-end broadband delivery across metro network for delivery of triple play services (voice, video & data). System integrating and testing is in progress.

- **Communication & Security Research & Monitoring (Security Management for Law Enforcement Agencies)**
  The Communication and Security research and monitoring scheme aims to build, through indigenous Research & Development, a national infrastructure comprising a Central Monitoring System with secure connectivity and automated provisioning, to all

TSPs and ISPs to strengthen the functions of the Law Enforcement, Agencies (LEA) of the country.

a) Centralized Monitoring System (CMS)

The R&D component of the scheme primarily focuses on design, development and trials / validation of systems related to call interception, monitoring, analysis of social networking of target subscribers' data, end-to-end secured work flow etc. as required by various law enforcement central and state agencies to address unlawful activities through misuse of country's voice-&-data communication network by anti-social elements. Design has been completed for major subsystems such as LEMF scalability, db, GUI, IRI etc. and design review / implementation is in progress. It was decided in a DOT meeting to do monitoring and analysis with PSU TSPs only. Procurement of infrastructure for MTNL site has been initiated. Data centre build tender has also been floated and analysis tools SRS review is in progress.

b) Security Infrastructure Creation

The scheme aims at progressive scaling up and build-up of the facilities in an environment of multi-technology, multi- vendor and multi-service providers to the requirements of LEAs. The actual scaling up of the infrastructure creation as part of the national roll-out will, however, commence only after getting CCEA (Cabinet Committee of Economic Affairs).

- **Technologies for NE Region**

North-East region has special requirements because of its topology, terrain, distances from the rest of the country and scattering of population over different and distant areas of the region. These requirements call for feasibility study of appropriate technologies for such region, proof-of-concept where such technologies can be used in the region, field trials, specific research and development work in certain cases and adaptation/ up gradation of developed technologies. C-DOT has initiated a reasonable development on these aspects so that both the new technologies can be adapted to the requirements of region This scheme addresses some of these challenges faced in north eastern region by developing indigenous solutions that are low cost and easily maintainable by local support. Number of fixed voice lines based on C-DOT technology currently operational in North-East region (NE1, NE2 & Assam) of the country are 0.63 million. There is a need to upgrade and enhance the capabilities of this infrastructure with a mix of new technologies so that such a technology migration leads to possibilities of new services and also enhances the efficiency.
The technology currently being focused for adaptations for the region include VoIP technology, Concept Proving and Pilot trial for broadband wireless technology, Migration of C-DOT Fixed-line Tech. technology to next generation Packet Technology – Proof of concept & Pilot Trial, network management system.

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VoIP soln. installed in the field at Noida & BSNL plans to provide services to the subscribers of GPON installed at Jaipur. The services to subscribers of NE region can also be provided depending upon the requirements.
Wi-Fi based point-to-point broadband wireless systems integration & testing is in-progress & C-DOT VoIP soln. is being integrated for broadband wireless connectivity.

MAX-NG systems integration & testing is in-progress for migration to packet technology; proposal has also been submitted for its field trial.
Packet interface architectural & functional module design & protocol for GPRS & study for IP interface towards MSC server completed.
Requirement study for GNMS-AMS carried-out & commercial proposal submitted to BSNL for implementation.

- **Rural Technologies**

Considering that rural population comprises 70% of the total Indian population, three key aspects of rural uplift that impact national development objectives encompassed in the National Common Minimum Program (NCMP) are:

1. Incentives for growth of rural economy at a minimum annual rate of 7-8%
2. Education and primary health care of men, women and children
3. Enhancing the welfare and well-being of farmers and unorganized sector workers through increased employment opportunities.

The fundamental infrastructural requirements underlying successful fulfillment of objectives relating to these aspects are reliable transportation and communication facilities in the rural and remote areas of the country.

This scheme envisages various deliverables with rural focus, to facilitate improving rural teledensity and also to provide broadband connectivity for bridging the digital divide between the urban and rural India.
SG-RAN system integration & testing is in-progress. System integration & testing is in-progress for WiMAX-based broadband system in 2.3 to 2.7 GHz. radio frequency.

- **Broadband Technologies**

The scheme broadly aims at research & development on packet based broadband technology for access and transport telecommunication system on various transmission media including optical, wireless, copper etc. Currently, feasibility study is in-progress. The Penetration of Broadband services in India is poised for a huge growth primarily due to the Governments initiative on increasing the broadband connections, building a National Knowledge Network to bring teleservices to the rural population etc. The scheme focuses on research and development of packet-based broadband technology for access and telecommunication transport systems. Different deliverables relate to various transmission media such as optical, wireless, copper etc. Development initiated for MOES CPE

- **Strategic & Enterprise Solutions**

The scheme aims at development of applications and solutions, for Business Enterprises and Strategic Sectors, which will be an important source of revenue for C-DOT.
CNMS Tx PoC (Proof of concept) successfully completed & commercial proposal has been submitted. IP-NMS PoC completed & enhancements are being carried-out; approval from CAIR is awaited to commence the implementation. Efforts are ongoing for operationalizing CLH applications for 2 additional zones of BSNL. In ATM-based customization, CMS-SNF offered for Integrated Factory Acceptance Testing (IFACTs) at BEL, Ghaziabad. Customization / enhancements are ongoing with respect to network elements for SDCN.

- **Basic Research on Telecom Network and Enabling Technologies / Study / Pilot Projects**

  This scheme helps C-DOT to maintain its position of excellence in R&D, by conducting basic research as well as conducting studies and setting up pilots in new/green field areas in telecom enabling technologies and networks. Under USOFA scheme -1 &2, tower locations identified for cellular mobile infrastructure deployment; submitted site-wise coverage analysis. Technical feasibility report also submitted for broadband wireless access
  Study is also in-progress with respect to Dynamic Spectrum Allocation (DSA), Broadband STB-cum-PC, STB interoperability, active infrastructure sharing with shared spectrum, one number.

- **Enhancements / New features / up-gradation / adaptation / technical support for developed technologies**

  This scheme focuses on R&D efforts related to development/and technology support, required for enhancements, evolution, feature addition, scalability, value addition and customization for changing requirements. These are envisaged for developed/deployed technologies of C-DOT. Major activities under this scheme include enhancements of existing deployed technologies, namely, MAX, RAX, NMS (local, TAX, GSM), Call Interception System, IN, NGN / MAX-NG, GPON etc., for feature addition, component obsolescence, bug-fixing with new releases, etc.

- **Campus Infrastructure**

  Under this scheme construction of residential facilities for CDOT staff at Delhi R&D campus area would be built, to further enhance environment for R&D

- **C-DOT Alcatel Research Centre (CARC)**

  It is a Cabinet approved Joint Venture program to conduct research and development in wireless broadband and supporting technologies. Under the 11th Five-year Plan, this joint venture program will broad base its programs, including the Research & Development activities in the area of wireless broadband.

- **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/MTP, 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, 40% of them were women. In management cadres (Team Leaders, Group Leaders, Technical Experts and Sr. Technical Experts) about 30% are women.

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)

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

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 customized 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.

The review of the performance for the year 2008-2009 and for the year 2009-2010 is placed at **Annexure - "U"**.

Annexure –S

TELECOM REGULATORY AUTHORITY OF INDIA
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t. Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	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 1999 including carrying out of consultative studies on regulatory issues and provision of training of its employees	3.00	Cannot be quantified as the project envisages to strengthen the institutional capabilities of TRAI to perform its functions under the TRAI ct, 1999 including carrying out of consultative studies on regulatory issues and provision of training of its employees	During the Annual Plan period 2008-09	The consultancy studies helps TRAI in formulating the recommendations & other regulatory functions and also to meet the training needs of TRAI officials who are required to keep abreast with the fast changing technologies advancements in the Telecom Sector	
2	Purchase of Land & Building	To purchase suitable office space for locating the TRAI Office	7.00	-	Not applicable	-	
		Total	**10.00**				

TELECOM REGULATORY AUTHORITY OF INDIA
Performance for the year 2009-10 (up to 31st December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	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 1999 including carrying out of consultative studies on regulatory issues and provision of training of its employees	3.00	Cannot be quantified as the project envisages to strengthen the institutional capabilities of TRAI to perform its functions under the TRAI ct, 1999 including carrying out of consultative studies on regulatory issues and provision of training of its employees	During the Annual Plan period	The consultancy studies helps TRAI in formulating the recommendations & other regulatory functions and also to meet the training needs of TRAI officials who are required to keep abreast with the fast changing technological advancements in the Telecom Sector	
2	Purchase of Land & Building for TRAI	To purchase a suitable office space for locating TRAI's Office	7.00	-	Not applicable	-	
		Total	**10.00**				

Annexure –T

TELECOM DISPUTES SETTLEMENT & APPELLATE TRIBUNAL
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	Upgradation of TDSAT Reference Library	Purchase of books and hardware /software to strengthen the reference library	0.45	Purchase of books and hardware/software to strengthen the reference library	Ongoing activity	Purchased the books and hardware/ software for Upgradation of reference library apart from printing of TDSAT compendium	
2	Study Tour familiarizing with the telecom regulatory environment	Study tour by Hon'ble Chairperson and Members to various countries	0.40	Study tour by Hon'ble Chairperson and Members to various countries	Ongoing activity	The Hon'ble Chairperson, Members and other senior officers have undertaken the study tours to Netherlands, Norway, Geneva, Dubai and Spain to familiarize with the Telecom regulatory environment and application of Regulations/ Laws in the respective countries	
3	Holding of Seminars on Telecom Disputes & Settlement	Holding of domestic seminars on Telecom Disputes & Settlement in four cities in the country	0.45	Holding of domestic seminars on Telecom Disputes & Settlement in four cities in the country	Ongoing activity	The TDSAT has organized four seminars on the subject relating to Telecom Disputes settlement in four cities i.e. Chennai, Ranchi, Pune and Jodhpur	
		Total	**1.30**				

TELECOM DISPUTES SETTLEMENT & APPELLATE TRIBUNAL
Performance for the year 2009-10 (up to 31st December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	Upgradation of TDSAT Reference Library	Purchase of books and hardware /software to strengthen the reference library	0.10	Purchase of books and hardware/software to strengthen the reference library and printing of TDSAT compendium	Ongoing activity	Purchased the books and hardware/ software for Upgradation of reference library apart from printing of TDSAT compendium	
2	Study Tour familiarizing with the telecom regulatory environment/ training	Study tour by Hon'ble Chairperson and Members to various countries	0.70	Study tour by Hon'ble Chairperson and Members to various countries	Ongoing activity	The Hon'ble Chairperson, Members and other senior officers have undertaken the study tours to USA, Singapore, Geneva, UK, France and South Africa to familiarize with the Telecom regulatory environment and application of Regulations/ Laws in the respective countries	
3	Holding of Seminars on Telecom Disputes & Settlement	Holding of domestic seminars on Telecom Disputes & Settlement in four cities in the country	0.40	Holding of domestic seminars on Telecom Disputes & Settlement in four cities in the country	Ongoing activity	The TDSAT has organized two seminars on the subject relating to Telecom Disputes settlement in Lucknow and Indore	
		Total	**1.20**				

Annexure – U

CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	High bit rate network on Fiber & Satellite	Development of high capacity systems for information transport over Optical Fiber & Satellite	17.00	• Development of Multi-PON OLT Equipment		• Optical Line Termination (OLT) software porting on hardware and testing in progress	
2	Technologies for North Eastern Region	To provide packet oriented telecom technologies also including possibility for use of satellite connectivity suitable for demography, terrain and environment of NE region and similar areas	11.82	• Site Planning & preparation for piloting technology trails for C-DOT VOIP technology • Field trial for Phase-I C-DOT Media Gateway, Signaling Gateway, & Soft-switch based VoIP solution • Implementation of Link capacity enhancements in C-DOT Signaling Gateway		• Site planning completed at Shillong and some of the equipment installed at the site.	
		VoIP Technology		• Implementation of channel capacity enhancements in C-DOT Media Gateway • Implementation of Integration of Class 4 and Class 5 feature sets in C-DOT soft-switch		• All the other features implemented in the control site at Noida. These features will also be retrofitted at Shillong site after testing and trial at Noida.	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
		Concept Proving and Pilot trial of Broadband Wireless Technology		• Site allocation, planning & preparation • Concept proving & piloting technology trial for Point-to – Point Broadband Wireless System for backhaul application		• System integration & link testing ongoing for VoIP based rural broadband access node for point-to-multipoint last mile access node, slowed down due to obsolescence of critical component requiring re-designing of subsystems. Presently focus is being given to alternatively explore Wi-Fi based point-to-point & point-to-multipoint system for concept proving & pilot technology trial	
		Migration of C-DOT fixed line technology to next generation packer tech - Proof of concept & pilot trial		• Integration of LAG with C-DOT VoIP solution.• Design of higher capacity IPDSLAM system • Design of GSM interface in C-DOT soft-switch C5 feature set.		• Integration & testing in-progress • A small capacity 48 port IP DSLAM system (upgradable to 96 port) & ADSL2+ CPE completed including its TEC testing. System already commissioned at Indira Nagar Bangalore & system has also been installed in NE region at Shillong for field trial. The basic building block of higher capacity system i.e., 96 port system is ready & once the technology is proven in field, the higher capacity system can be realized to maximum capacity 480 ports using basic building block.	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
3	Rural Technologies	Provisioning of broadband and end-to-end VoIP services in rural areas	13.95	• Testing of VoIP over 2.4Ghz RF • Targets are being defined for progressive work on this technology including shared radio.		• System integration & link testing have been ongoing for VoIP based rural broadband access node for point-to-multipoint last mile access node. The obsolescence of baseband processor and RF trans-receiver has slow down product integration and testing activities. This will require a redesigning of subsystems and present focus currently has been shifted to point-to-point broadband wireless system for backhaul application for which RF design is currently in progress using new component chip. The focus is also being given to alternatively explore Wi-Fi based solution for point-to-point and point-to-multipoint systems. These systems are likely to be available for its adaptation and trial sometime during last quarter of the year 2008-09 • Design & development is in progress for shared radio GSM RAN (SG RAN). Various sub-systems including PCB sub-modules are being made ready	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
4	Strategic & Enterprise Solutions	Development of state of art Transmission Network Management (TX-NMS) 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	8.02	• Implementation for TX NMS		• TX-NMS feasibility demonstration completed. Design & development completed for the release of next version i.e. V.2.0.0; currently integration & system testing ongoing in the lab. Design & dev also in progress for IP Network NMS to facilitate in management of IP infrastructure of enterprise.	
		Clearing house application of OSS		• Clearing house application implementation on commercialization basis		• Clearing House Application - Technology completed and ready. Data clearing house services for GSM roaming between East & North zone of BSNL & MTNL Delhi are operational on commercial basis	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
		Project-wise customization and deployment of CDOT ATM based systems for multiple defense applications and multiple projects		• Implementation of CMS-SNF Customizations for Navy		• ATM Customization for Defence Application - A tripartite MoU between C-DOT, BEL & Indian Navy has been signed to work together for execution of additional projects of Indian Navy relating to the use of ATM technology developed by C-DOT. Development for Customization of requirements for 1st ship of CMS-SNF at Vishakhapatnam completed and onboard support services ongoing for 3 ships of AISDN-17 project at Mumbai ongoing.	
		Implementation of Mobile Number Portability functionality for C-DOT technology switches deployed in the network		• Design of Mobile Number Portability solution for Indian Mobile Networks		• Due to non-emergence of requirement the activity is not being focused.	
		Provisioning of innovative computer based voice applications and solutions		• Implementation of Personal Voice Portal (PVP) in C-DOT Soft-switch • Implementation of Media Services for C-DOT Soft-switch • Implementation of Web Portal for C-DOT Soft-switch		• Feasibility study in progress.	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
5	Enhancements/ New Features/ Upgradation/ Adaptation/ Technical support for developed technologies	The scheme focuses on developmental enhancements, migration to next generation technologies leveraging the legacy, feature addition, scalability, value additions, customization for changing requirements, etc for the developed / deployed technologies as upgradation are the major components envisaged under the scheme.	29.30	• It is ongoing activity • Commencement of technology trials of enhancements on C-DOT MAX technology to the next generation packet-based technology. • Support for other technologies deployed in the network / under field trial; & these technologies may include Advance IN service, Call Interception Sys (CIIS), Clearing-house Applications, NMS (Local, TAX, GSM), Broadband Wireless, SDR GSM BTS etc.		• It is an ongoing technology upgradation activity catering to component obsolescence, feature enhancements and adaptation for new interfaces etc. Considerable progress has been achieved in the following areas:• New patch release for 2-2-1-9 successfully tested by TEC at Ladwa, Kurukshetra for features like centrex, special priority implementation, hourly billing files' dumped, interface for compact embedded system (CES). Software has been installed at various sites and working satisfactorily. Patch rel is ready for propagation in field.• Technology also transferred for CES to transfer CDRs to billing centres.• Design enhancements / adaptations ongoing for migration of C-DOT MAX tech to packet-based tech. The subsystems for migrating MAX tech to packet tech are planned for testing & field trial at Bangalore in last qtr of 2008-09. TEC testing completed for C-DOT IP DSLAM & ADSL2+ CPE , field trial for same is scheduled in last qtr of 2008-09 at Shillong in NE.• Technology support for enhancements &/ field trial for WIN (Wireless IN) services of IN (Intelligent Network), CIS (Call Interception System) & Clearing House Application.• Regular onsite support for deployment of local NMS (LNMS), Subscriber mgmt and implementation of TAX NMS system in BSNL network	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
6	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	0.95	• Study report on SDR , high speed packet technology		• It is an exploratory work which is ongoing for taking up new technology areas for implementation. • Some changes in study project and report for the same prepared.	
7	Communication & Security Research and Monitoring (Security Management for Law Enforcement Agencies)	With the massive subscriber base which is growing further there is a need for development computational approaches using artificial intelligence techniques, biometric devices, crypto analysis, voice recognition technologies, encryption/ decryption, mining data bases etc. to provide useful inputs to the national security agencies about suspected target subscribers and potential antisocial groups.	42.10				

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks / Risk Factors
1	2	3	4	5	6	7	8
a)	Centralized Monitoring System (CMS)	R& D for Security Mgmt for law & enforcement agencies		• Updated pilot of multi-technology centralized platform to demonstrate feasibility for various technologies. • Finalization of design and architecture for end-to-end secure workflow, creation of identity matrix and social networking analysis		• Proof-of-concept pilot demonstrated for various technologies including initial examples of social networking tree also demonstrated. • Design, work-flow architecture and dimensioning for data centre structure, identity matrix etc finalized	
b)	Security Infrastructure creation	Scaled up infrastructure creation for centralized monitoring analysis e.g. high capacity platform for multiple tech for lawful interception & monitoring for higher no. of operators & covering more areas					
8	Broadband Technologies	The technology area needs further study to identify appropriate project deliverables suitable for induction in Indian telecom; as decided during project re-prioritization by the Steering Committee	1.34	• Feasibility study; Project deliverables conceptualization and defining targets		• Feasibility study in progress.	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2008-09

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2008-09 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
9	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 Research Centre in India	26.00	• Piloting the WiMAX technology to be continued		• It is a joint venture program and trials for first version of CPE (Customer Premises Equipment) with modified base station being field tried at many sites. Firm orders are being considered in one case.	
10	Campus Infrastructure	Construction of residential facilities for CDOT staff at Delhi R&D campus area, to further enhance environment for R&D	1.30	• Construction activity to be in progress		• Drawings for the construction of hostel and dwelling units have been prepared & Architect submitted the same for their statutory approval before the construction could commence.	
		Total C-DOT	**151.78**				
11	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	3.00	Assisting Government in telecom policy & regulation	Ongoing work	Ensuring Security in telecom. Referral Agency for Technology adoption and security evaluation & surveillance	
		Total CDOT & TETC	**154.78**				

CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	High bit rate network on Fiber & Satellite	Scheme focuses on R &D in the area of optical and satellite to provide technology for high speed communication. A number of technology products have been developed and successfully field tried with technology approval for induction in the network. Presently development focus is on GPON (Gigabit Passive Optical Network) system to provide end-to-end broadband delivery across metro network for delivery of triple play services (voice, video & data)	6.44	• Completion of internal validation for GPON system • Commencement of TEC testing & pilot trial of GPON system in field		• System integrating & testing in progress	
2	Communication & Security Research and Monitoring (Security Management for Law Enforcement Agencies)	The Communication and Security research and monitoring scheme aims to build, through indigenous R&D, a national infrastructure comprising a Central Monitoring System with secure connectivity and automated provisioning, to all TSPs and ISPs to strengthen the functions of the Law Enforcement, Agencies (LEA) of the country.					

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
2(a)	Centralized Monitoring System (CMS)	The R&D component of the scheme primarily focuses on design, development and trials / validation of systems related to call interception, monitoring, analysis of social networking of target subscribers' data, end-to-end secured work flow etc. as required by various law enforcement central and state agencies to address unlawful activities through misuse of country's voice-&-data communication network by anti-social elements.	36.68	• Completion of Phase-1 (deployment of voice interception, monitoring & analysis for all TSPs (mobile & fixed) in Delhi • Infrastructure procurement & set-up for phase-1, data centre build, analysis tool demo & internal validation			
2(b)	Security Infrastructure creation	Progressive scaling up and build-up of the facilities in an environment of multi-technology, multi vendor and multi-service providers to the requirements of LEAs.	32.70	• Build-up the infrastructure for national roll-out of Centralized Monitoring System (CMS)		The actual scaling up of the infrastructure creation as part of the national roll-out will, however, commence only after getting CCEA approval	This is a progressive built up process.

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
3	Technologies for North Eastern Region	NE region has special requirements because of its topology, terrain, as compared to the rest of the country and also because of the demographics of a scattered population over the region. These requirements call for feasibility study of appropriate technologies for such region, proof-of-concept where such technologies can be used in the region, field trials, specific research and development work in certain cases and adaptation/ up gradation of developed technologies.	25.28	• C-DOT VoIP solution technology trial• Concept proving & pilot trial of broadband wireless tech. - point-to-multipoint MAC design• Pilot testing for MAX tech. migration to the next generation packet-based tech. on C-DOT VoIP soln.• Packet interfaces for mobile radio access network-design of architectural & functional modules for GPRS & interfaces towards MSC server• GNMS-AMS - architecture finalization, requirement study ,SRS preparation & initiating tech./prod. development		• VoIP soln. installed in the field at Noida & BSNL plans to provide services to the subs. of GPON installed at Jaipur. The services to subs. of NE region can also be provided depending upon requirements.• Wi-Fi-based point-to-point broadband wireless sys. Integration & testing in-progress & C-DOT VoIP soln is being integrated for broadband wireless connectivity • MAX-NG sys. Integration & testing in-progress for migration to packet tech, proposal also submitted for its field trial. • Packet interface architectural & functional module design & protocol for GPRS & study for IP interface towards MSC server completed• Requirement study for GNMS-AMS carried-out & commercial proposal submitted to BSNL for implementation	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
4	Rural Technologies	This scheme envisages various deliverables with Rural focus, to facilitate improving Rural teledensity and also to provide Broadband connectivity for bridging the digital divide between the Urban & Rural India.	17.95	• SG-RAN System integration, internal validation and field trial • VoIP-based rural broadband access node-CPE design for multiple user interfaces & multi-port terminal		• SG-RAN sys. Integration & testing in-progress • Sys. Integration & testing in-progress for WiMAX-based broadband sys. in 2.3 to 2.7 GHz. radio frequency.	
5	Broadband Technologies	The Penetration of Broadband services in India is poised for a huge growth primarily due to the Governments initiative on increasing the Broadband connections, building a National Knowledge Network, to bring teleservices to the rural population etc. The scheme focuses on research and development of packet-based broadband technology for access and telecommunication transport systems. Different deliverables relate to various transmission media such as optical, wireless, copper etc.	1.41	• Multiport Optical Enterprise Solution (MOES) - design & development for CPE & multi-port terminal		• Development initiated for MOES CPE	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
6	Strategic & Enterprise Solutions	The scheme aims at development of applications and solutions, for Business Enterprises and Strategic Sectors, which will be an important source of revenue for C-DOT.	6.44	• Transmission Network Management System (TX-NMS) commercial deployment • IP-NMS development of SNMP Manager, auto discovery & DCN monitoring; commercialization of data clearing house application; C-DOT ATM technology customization for multiple Defence applications; computer based voice applications and solutions • Commercialization of Clearing House (CLH) application • C-DOT ATM-based customization for multiple defense applications • SDCN (Secure Dedicated Communication Network)-customization & enhancements of C-DOT developed network elements		• CNMS Tx PoC (Proof-of-concept) successfully completed & commercial proposal submitted • IP-NMS PoC completed & enhancements being carried-out; approval from CAIR is awaited to commence the implementation • Efforts ongoing for operationalizing CLH applications for 2 additional zones of BSNL • In ATM-based customization, CMS-SNF offered for Integrated Factory Acceptance Testing (IFACTs) at BEL, Ghaziabad • Customization / enhancements ongoing w.r.t network elements for SDCN	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
7	Basic Research on Telecom Network & Enabling Technologies/ Study/ Pilot Projects (New)	This scheme helps C-DOT to maintain its position of excellence in R&D, by conducting basic research as well as conducting studies and setting up pilots in new/green field areas in telecom enabling technologies and networks.	**2.73**	• Study, technology feasibility analysis report		• Under USOFA scheme -1 &2, tower locations identified for cellular mobile infrastructure deployment; submitted site-wise coverage analysis. Technical feasibility report also submitted for broadband wireless access • Study is also in-progress w.r.t. Dynamic Spectrum Allocation (DSA), Broadband STB-cum-PC, STB interoperability, active infrastructure sharing with shared spectrum, one number.	
8	Campus Infrastructure	Construction of residential facilities for CDOT staff at Delhi R&D campus area, to further enhance environment for R&D	**1.00**	Residential facility		• Commencement of construction activity subject to statutory approvals.	

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CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2009-10 (upto December 2009)

(Rs. in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2009-10 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2009	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
9	Enhancements/ New Features/ Upgradation/ Adaptation/ Technical support for developed technologies	This scheme focuses on R&D efforts related to development /and technology support, required for enhancements, evolution, feature addition, scalability, value addition and customization for changing requirements. These are envisaged for developed / deployed technologies of C-DOT. Major activities under this scheme include enhancements of existing deployed technologies, namely, MAX, RAX, NMS (local, TAX, GSM), Call Interception System, IN, NGN / MAX-NG, GPON etc., for feature addition, component obsolescence, bug-fixing with new releases, etc.	**26.37**	• Ongoing activities for tech. upgradation to cater to component obsolescence, feature enhancements, adaptations for new interfaces etc.			
10	C-DOT Alcatel Research Centre (CARC) (Cabinet Approved Schemes)	It is a Cabinet approved Joint Venture program to conduct research and development in wireless broadband and supporting technologies. Under the 11th Five-year Plan, this joint venture program will broad base its programs, including the Research & development activities in the area of Broadband Wireless.	**13.00**	• Design & development of 7-types of CPE completed • Limited no. of CPEs produced on ToT & sold to East European Countries • R&D services to Alcatel Lucent for development of Wi-MAX BTS & 3 G Femto cells in-progress			
		Total	**170.00**				