GOVERNMENT OF INDIA

OUTCOME BUDGET

2015-2016

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.10(3)/E.Cord/2012 dated 1st January, 2013, and Ministry of Finances' 51st Report of the Standing Committee on Finance on Demands for Grants for the year 2012-13. - Measures to improve the Outcome dated 11 Feb 2015 Outcome Budget 2015-16 will broadly indicate the physical dimensions of the financial budgets as also the actual physical performance in 2013-14, performance for the year (2013-14) and the targeted performance during 2014-15. In pursuance to the instructions issued by Ministry of Finance, Outcome Budget 2015-16 has been prepared for the Department of Telecommunications.

Telecommunications has seen impressive expansion and large investments in the past several years with teledensity increasing from 26.2 percent in 2008 to more than 75.23 per cent in March 2014. The expansion has been led by private sector service providers whose market share (in terms of number of connections) increased in this period from 87.13 per cent to 89.15 per cent.Today, India's 971.71 million (including 944.01 million of wireless telephony) strong telephone network is the second largest wireless network in the world. The mass market growth in India is led by the mobile segment. This growth in the telecom network has resulted in an overall teledensity of 77.59% at the end of December 2014. 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.

There is tremendous scope for further expansion in telecommunications, especially with the introduction of 3G services. Telecommunications, and the associated increase in Internet connectivity is clearly a productivity enhancing development, and India is well placed to benefit from this.

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 2015-16 is towards the outlays of WPC[2], WMO[3], TEC[4], TRAI[5], TDSAT[6], C-DOT[7], NICF[8] and four departmental projects.

[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 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 plan expenditure of the Department.

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*.

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 2015-16 and the physical targets for 2015-16. 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 2013-14, 2014-15 and 2015-2016 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.

[8] National Institute of Communication Finance

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)
v) Telecom Enforcement, Resources and Monitoring (TERM) cells previously known as Vigilance and Technical Monitoring (VTM) cells.

Public Sector Undertakings

i) Bharat Sanchar Nigam Limited – Govt. holding 100%
ii) Mahanagar Telephone Nigam Limited – Govt. holding 56.25%.
iii) ITI Limited – Govt. holding 92.87%
iv) Telecommunications Consultants India Limited – Govt. holding 100%
v) Bharat Broadband Network Limited – Govt. holding 100%
vi) HPIL– 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 Telecommunications

With a view to promoting quick decision making and development in all aspects of telecommunications including technology, production services and financing etc., the Government of India established a Telecom Commission with necessary executive, administrative and financial powers to deal with various aspects of telecommunications, modelled 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 (CCA) 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 to lakhs of employees of DoT, BSNL and MTNL.

1.4.2.1 Functions being performed by CCA Offices

The 25 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:** DoT has issued various types of licences. Majority of the licences are under revenue share regime of licence fee which is based on fixed percentage of Gross Revenue / Adjusted Gross Revenue, while some are under fixed rental licence fee based on terminals. Office of the CCAs is authorized to collect the licence fee of all kind of licences. The preliminary scrutiny of licence fee related documents as per licence agreement is also performed by them. Assessment of Licence Fee in respect of Standalone Licences has also been decentralized to the circles. Licencees having multiple licences, the assessment is being done at DoT, HQ. DoT HQ is also dealing with the issues raised by the field offices in respect of licence fee collection.

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 licencees in respect of all licenses.

iv. **Verification of Deductions**: As per the license agreement, licensees claim deductions from Gross Revenue to arrive at Adjusted Gross Revenue for the purpose of calculation of Licence 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.

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

vi. **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.

vii. **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.

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

1.4.3 Telecom Enforcement, Resource and Monitoring Cells (TERM Cells):

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.

Para 1.4.6. Administrator, Universal Service Obligation Fund (USOF)

The Universal Service Obligation Fund(USOF) aims to provide telecommunication services to people residing in rural and remote areas of the country at affordable price. The Universal Service Support Policy (USSP) announced by the Government based on therecommendations of TRAI came into effect from 1.04.2002.For implementation of the Universal Service Support Policy, the Government has appointed an Administrator, Universal Service Fund w.e.f. 1.6.2002. The office of the Administrator, USF is an attached office of the DoT.

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

- Formulate bidding procedures including its terms and conditions for the purpose of implementation of Universal Service Obligation.
- Evaluate the bids called for the purpose of implementation of Universal Service Obligation.
- Enter into Agreement with the Universal Service Provider for the purposes of implementation of Universal Service Obligation.

- Settle the claims of Universal Service Provider after due verification, and make disbursements accordingly from the Fund.
- Specify relevant formats, procedures and records to be maintained and furnished by the Universal Service Provider.
- Monitor the performance of the Universal Service Provider as per the procedure specified by him from time to time.

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 license fee, except for pure value added service providers such as Internet, voice mail, e-mail 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 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 Oct 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.17,500 crore and paid up capital of Rs.12,500 crore comprising of Rs. 5,000 crores of Equity and Rs. 7,500 crores of 9% preference shares It is a technology-oriented company with a mandate of providing all types of telecom services

1.4.10.3 BSNL has largest telecom network in the country. It operates the telecom services in all the circles of the country except Delhi and Mumbai where another Public Sector Undertaking 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 Municipal 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 ` 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 ` 700 Crores and ` 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.

1.4.14 Bharat Broadband Network Limited

1.4.14.1 Bharat Broadband Network Limited has been incorporated on 25-02-2012 as a Special Purpose Vehicle (SPV) for the execution of National Optical Fibre Network (NOFN) project. The NOFN has been planned to connect all the 2,50,000 Gram Panchayats in the country through optical fibre cable utilizing the existing fibres of PSUs such as BSNL, RailTel and Power Grid and laying incremental fibre wherever necessary.

CHAPTER – II

Outcome Budget 2015-16

The Outcome Budget 2015-16 has been prepared for the schemes/programmes coming under Plan. The Outcome Budget 2015-16 prepared for the Department of Telecommunication includes the following:

Annual Plan Proposal 2015-16 (BE)

(Rs. In Crore)

Sl. No.	Unit/Scheme	BE 2015-16 (Proposal)
1	BSNL	9796.00
2	MTNL	805.14
3	C-DoT	80.00
Total IEBR		**10681.14**
GBS		
1	ITI	1804.00
2	WMO	64.10
3	WPC	1.80
4	TRAI	524.00
5	TDSAT	1.55
6	TEC	39.42
7	C-DoT	362.00
8	TDIP	4.50
9	DS	5000.00
10	NICF (Phy. Infra. & HRM)	101.87
11	USOF	12600.00
12	Microwave link between Champhai to Zokhawthar	3.00
13	Establishment of Satellite Gateway Assistance to BSNL	40.00
14	North East Projects executed by BSNL with Government Support	20.00
15	Sub Marine Cable Connectivity to Andaman & Nicobar Islands ((UAM&N)	1.00
16	Infusion of equity in TCIL*	16.00
17	Construction of New Building for DoT*	40.00
Total GBS		**20623.24**
Total Plan Outlay		**31304.38**

*New schemes – (i) Infusion of equity in TCIL.
(ii) Construction of New Building for DoT

2.1 USOF

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.

PLANNED/ NEW/ FORTHCOMING SCHEMES

2.1.1 Comprehensive Telecom Development Plan for North-Eastern Region:

On 10.09.2014, the Union Cabinet approved a proposal to implement a Comprehensive Telecom Development Plan for the North-Eastern Region. The Project envisages providing mobile coverage to 8621 identified uncovered villages, installation of 321 mobile tower sites along National Highways and strengthening of transmission network in the States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

2.1.2 Scheme for Mobile Communication Services in Uncovered Villages :

A scheme to extend financial support from USO Fund for provisioning of mobile communication services in inhabited uncovered villages of the country not having mobile coverage is under consideration. It is estimated that there are about 55,669 villages in the country that do not have mobile coverage. Mobile coverage to balance uncovered villages is proposed to be provided in a phased manner over five years.

2.1.3 Government User Network (GUN) overlay over NOFN for delivery of e-Governance services to Panchayats:

NOFN infrastructure connectivity is proposed to be supplemented by the Government User Network (GUN) as an overlay on NOFN. This project will be an IT layer atop the telecom layer from district HQ to all Gram Panchayats. The Project objective is to ensure "Broadband for all". The estimated cost of the project is Rs.4900 crore as Capex and `2500 crore per annum as Opex for a period of 10 years.

TRAI in its recommendation on approach towards green telecommunications has recommended to initiate measures to green the telecommunication sector, all Infrastructure and services in the Telecom Sector should be Energy and performance assessed. The same is being examined.

2.1.4 Transmission Media Plan

For a telecom network, transmission media plays a critical role in connecting one place to another. The investment proposed for the transmission media plan for the NER aims at strengthening the core network connectivity between State capitals and the respective District Headquarters (DHQs) within the State. This plan has been prepared to upgrade available telecom infrastructure so as to provide the required bandwidth in the future in the NER States and to provide the required diversity/redundancy (fallback) of media in the event of the failure of the connectivity of the main link.

BE 2015-16

In view of the above mentioned ongoing and new activities, USOF has projected an amount of Rs. 12600 Crores in the Budget Estimate (BE) for the year 2015-16. In BE 2015-16 the major component of funds i.e. Rs 9335 Crore and Rs. 1230 crore have been proposed for the scheme for creation of National Optical Fiber Network (NOFN) for Broadband connectivity to 2.50 lakh Village Panchayats of the Country and inLeft Wing Extremism (LWE) affected areas in 10 states respectively. It is expected that in the financial year 2015-16, USOF activities would progress considerably and bring about a resultant positive impact on rural connectivity, tele density 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 ` 39.42 crore has been provided under the plan 2015-16 for the setting up of NGN Lab for testing and certification of transport equipment under NGN test bed and Outcome Budget[9] 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 2015-16 is ` 1.80 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 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

[9] Refer Annexure-B

efficient. The Outcome Budget[10] of WPC relates to the residual payments and the AMC being undertaken under this project.

2.4 Wireless Monitoring Organization (WMO)

The approved Plan Outlay for Wireless Monitoring Organization is ` 64.10 crore for the year 2015-16 and the Outcome Budget[11] relates to the outlay. The funds would be utilized mainly for the establishment of 6 additional Wireless Monitoring Stations (WMSs) at Bhubaneswar, Dehradun, Lucknow, Patna, Raipur & Vijayawada, augmentation of training facilities, upgradation of Microwave Monitoring Terminals, procurement of SHF monitoring facilities 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 ` 442.00 crore has been approved for C-DOT during 2015-16 with ` 362.00 crore as budgetary support and ` 80.00 crore from the internal resources (IEBR) of C-DOT. The projects to be undertaken by C-DOT during 2015-16, which are part of the Outcome Budget[12] 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 ` 524.00 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 Outcome Budget[13] for TRAI pertains to the above parameters.

2.7 Telecom Disputes Settlement and Appellate Tribunal (TDSAT)

A sum of ` 1.55 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.

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

2.8 Bharat Sanchar Nigam Limited (BSNL)

Bharat Sanchar Nigam Ltd. (BSNL) has an approved Plan Outlay of ` 9796.00 crore from IEBR without GBS for the year 2015-16. The funds would be utilized for the provision of telecom services, internet & broadband facilities amongst other programmes given in the Outcome Budget[14].

2.9 Mahanagar Telephone Nigam Limited (MTNL)

The approved plan outlay of MTNL for the year 2015-16 is ` 805.14 crore with no budgetary support. The resources would be generated by the company through its internal and extra budgetary resources. The outcome targets as given in the Outcome Budget[15] 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 ` 1804.00 crore as budgetary support under financial relief plan for 2015-16[16].

2.11 National Institute of Communication Finance

(i) Human Resource Management for IP&TAFS

- **Mid Career Training (MCT):** A five stage MCT programme for IP&TAFS officers has been conceived by the National Institute of Communication Finance (NICF) in pursuance of the National Training Policy of the Department of Personnel & Training. A provision of ` 8.00 crore has been made in BE 2015-16. The endeavour would be to equip the officers to handle conflicting interests and demands and to interface effectively with policy makers. An intensive exposure to the best practices in the international arena would be provided at every stage.

  It is also proposed to introduce Mid-Career Training at suitable intervals for Group "B" and "C" of IP&TAFS from 2015-16 which would help in preparing them for next level competency expected on career progression and would aim at imparting right skill, knowledge and attitude at various stages of their career.

- **Induction and In-service Course:** In pursuance of the National Training Policy frame work the NICF is imparting (a) Induction Training at the time of entry into service in respect of IP&TAFS officers at the time of their induction through Civil Services Exams; and (b) Inservice training at suitable intervals to all categories of IP&TAFS cadres including Group "B" & "C". The inservice training programmes will be specifically designed in consultation with other partner institutions/consultants/experts to meet the requirements of the target groups. An amount of ` 4.00 crore has been provisioned in BE 2015-16 for this purpose.

- **Institutional and Capacity Development Initiatives:** Keeping in view the decision of the Government of India in accordance with 2nd Administrative

[14] Refer Annexure-H
[15] Refer Annexure-I
[16] Refer Annexure-J

Reforms Commission and 6th Central Pay Commission to move towards a competency based human resource development/management frame work there is proposal to re-orient/strengthen the human resource management and development processes of IP&TAFS. A series of projects are proposed to be undertaken for this purpose. Some of them are (a) Development and piloting new capacity development initiatives in communication sector; (b) Standardization processes, bench marking and quality certification of IP&TAFS officers (c) Setting up of e-learning system etc. An amount of ` 3.00 crore has been allocated for this purpose in BE 2015-16.

(ii) Physical Infrastructure for National Institute for Communication Finance (NICF):

A separate premises and campus with state-of-the-art training and residential facilities for NICF at Ghitorni, New Delhi has been envisaged for the Twelfth Five Year Plan. Foundation stone for the institute has already been laid by Hon'ble MOC&IT. Pre-project activities like preparation of DPR, Repair of boundary wall and approach road etc. are going. A provision of ` 91.28 crore has been made for this purpose during 2015-16.

2.12 DoT Projects

The total budgetary support of 5226.37 crores includes provision for the following projects and the Outcome Budget[17] has been prepared accordingly.

2.12.1 Technology Development & Investment Promotion (TDIP): The Government has to play an important role in promoting investment in the telecom sector including manufacturing and export of telecom equipments and services. Technology Development & Investment Promotion (TDIP) scheme is a scheme to fund activities related to technology development like R&D and IPR generation and also for promoting manufacturing and export of telecom equipment and services. For meeting the requirements of funds for various promotional schemes like grant in aid to Telecom Centres of Excellence, national and international participation in exhibitions and to promote export, assistance is provided for following activities:

(i) Grant-in-aid to Telecom Centers of Excellence (TCOE) set up in PPP mode by DOT.
(ii) Promotion and development of manufacturing and export in telecom sector.
(iii) Promotion of telecom sector through conferences and exhibitions in India and abroad.
(iv) Any activity related with technology development and investment promotion.

2.12.2 OFC based network for Defence Services (DS): Cabinet Committee on Infrastructure (CCI) in its meeting held on 3rd December 2009 approved the alternate communication network for Defence Services for release of spectrum.

[17] Refer Annexure-K

This 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 telephone and consequently the higher national growth of subscriber base. The spectrum available for mobile telephony has become inadequate due to the increasing demand of mobile services in the country. The work for Air Force network was started in 2006 and has been dedicated to the nation by 14.09.2010. The Army and Navy component of the network comprising of 219 and 33 sites respectively throughout the country has to be completed by December, 2012. 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 System (NMS), Security and Synchronization devices along with back up media on Microwave & Satellite for some strategic locations. The cost of the project was Rs. 8098 crore with the time line of 36 months (i.e. upto December, 2012) for implementation of the project. The proposal has been approved by CCI (Cabinet Committee on Infrastructure) in its meeting held on 03.07.2012 with revised timelines of 36 months for Rs. 5236 crore over and above Rs. 8098 crore already approved by CCI (Cabinet Committee on Infrastructure) on 03.12.2009.
An amount of Rs. 3065 crore has been provided in the BE 2014-15 for Army and Navy network part of the project.

The status of the project as on 31.01.2015 is as below:

Progress of the implementation of Defence Network (As on 31.01.2015)

S. No.	Components of the Network	Total sites	Sites Completed	Time by which all Sites are to be completed
1	Infrastructure work	333	253	March 2015

Sr. No.	Components of the Network	Sanctioned estimated cost	Time Lines as per the Present Progress				
		(Rs crore)	Floating of Tender	Purchase Order	Tendered cost (Rs Crore)	Installa-tion Start	Current Status
A	B	C	F	G	H	I	J
1	**OF Cable (Tri-services Backbone & Army Access)**	5174	21.06.2013	Pkg A & B issues in July 2014. Rest issued in Sep 2014.	8678.74	Nov / Dec 2014	Route Survey started in all the packages. QA completed Bulk Production Clearance (BPC) and started Factory Acceptance Test jointly with Army for OFC, PLB Pipes & Accessories. **(Tentative completion date: July 2016)**
2	**OF Cable (Navy Access)**	597	29.07.2013 Tender opened on 10/1/14	Feb 2015	Approval of Committee for Tender Evaluation (CET) Report is under process	March 2015	CET has completed Financial Evaluation and L1 bidder is M/s.TCIL. CET report has been submitted to MM Cell for further action. . **(Tentative completion date: July 2016)**
3	**Transmission Equipment (Tri-services Backbone)**	1300	20.11.2013	May 2015	Tender opened on 21.01.2015	Jun 2015	Tender has been opened. Techno-commercial evaluation is under progress. **(Tentative completion date: July 2016)**
4	**IP/Access Network (Navy)**	611	31.01.2014	May 2015	Tender opened on 23.01.2015	Jun 2015	Tender has been opened. Techno-commercial evaluation is under progress. **(Tentative completion date: July 2016)**
5	**IP/Access Network (Army)**	2300	19.11.2013	April 2015	Tender opened on 22.12.2014	May 2015	Tender has been opened. Techno-commercial evaluation is under progress.. **(Tentative completion date: June 2016)**
6	**GOFNMS**	1000	22.11.2013	March 2015	Tender opened on 10.09.2014	April 2015	Tender has been opened. Techno-commercial evaluation is under progress. **(Tentative completion date: June 2016)**
7	**Secrecy Devices**	366	11.12.2014	Jun 2015	Tender floated in 11.12.2014	Jul 2015	Tender to be opened in Feb 2015. **(Tentative completion date: June 2016)**.
8	**Microwave Network**	183	To be floated	Jul 2015	Tender not yet floated	Jul 2015	Tender has not been floated. . **(Tentative completion date: Dec 2016)**
9	**Satellite Network**	133	To be floated	Jul 2015	Tender not yet floated	Aug 2015	Tender has not been floated. . **(Tentative completion date: Dec 2016)**
10	**Unified Network Management System**	1241	RFP not yet received from Army				**(Tentative completion date: July 2016)**

** Scheduled time lines as per cabinet approval: 36 months w.e.f. July 2012

2.12.3 Microwave link between Champhai to Zokhawthar

The telecommunication network at Zokhawthar is very poor. The Optical Fibre Cable from Champhai to Zokhawthar gets cut every few days. It is necessary to install Microwave link between Champhai to Zokhawthar.

The preliminary survey has been done for the proposed microwave link and it is observed that Champai to Zokhawthar radio link is feasible with a regenerator station in between i.e. at Melbuk. For setting up of the link, land will be required at Melbuk and Zokhawthar. Besides this, radio tower will be required at all three places. Estimated expenditure for setting up the link is about 4.73 Crore and royalty charges for the spectrum is Rs. 28.80 Lakh per annum. As the link is required for redundancy, viability gap funding will be required from Government for entire amount. BSNL has started the work on the project.

2.12.4 Sub marine cable Connectivity to Andaman & Nicobar Islands

The telecom coverage in Andaman & Nicobar Islands is low as compared to the mainland of the country. There is no doubt that these islands also require quality and reliable telecom services.

Requirement of Under Sea Sub-marine Cable for telecom Connectivity & Bandwidth.

The long term solutions of bandwidth requirement is undersea OFC, originating from the mainland to ANI. To discuss the issue of under Sea cable for ANI, a meeting was convened on 2nd May, 2014 in Planning Commission. During this meeting, the following decisions were taken:

- It is necessary to design telecom connectivity to A&NI from strategic, defense and internal security interests rather than view it from the perspective of commercial viability. Therefore, the approach to connectivity must factor in the need for long-term, secure, robust and reliable communication facilities. Based on these principles, it was felt that the best approach would be to provide a direct communication link through a dedicated submarine OFC from Chennai Cable Landing Station (CLS) to Port Blair CLS.
- The project would be implemented in two phases. The first phase of the project to be taken up immediately would provide submarine OFC from Chennai to Port Blair and to two other islands, namely, Car Nicobar and Little Andaman.
- The second phase of the project to provide submarine OFC to Havelock, Kamorta and Great Nicobar Islands would be taken up on completion of the first phase after due assessment of bandwidth requirements.ANI Administration would provide island-wise tourists/visitors' data to work out the bandwidth requirements to Planning Commission in a fortnight.
- The connectivity to North Andaman, Middle Andaman, Baratang Islands and South Andaman would be through terrestrial OFC from the Port Blair CLS.
- Intra-island and inter-island telecom connectivity for the remaining islands would be taken up after TRAI recommendations are received, for which DoT has made a reference to TRAI on 7th January, 2014.
- The capital investment for the submarine OFC would be met from USO Fund for which DoT will create a separate budget line. Planning Commission would assist DoT in ensuring adequate budget provision for capital investment.
- It was agreed that the annual operational expenditure in the form of viability gap funding

would be provided by U.T Administration for which adequate budget provision would be made by the Ministry of Home Affairs.

- Department of Telecommunications (DoT) would separately assess the requirements of Defence forces in consultation with the Ministry of Defence and the three services, for providing dedicated OFC pair for Defence requirements.

DoT is proceeding as per the above decisions taken in the Planning Commission meeting.

2.12.5 Establishment of Satellite Gateway assistance to BSNL

This Project is meant for grant of financial support to Bharat Sanchar Nigam Limited (BSNL) from Department of Telecommunications to establish GMPCS (Global Mobile Personal Communication by Satellite) Service which enables a subscriber to communicate from any point (irrespective of the location) through hand-held terminal. BSNL had proposed to establish the gateway under technology transfer from M/s INMARSAT. M/s INMARSAT's 100% owned retail arm 'Stratus' will be the executive provisioner of service to BSNL. The proposed gateway will enable global satellite mobile service under GMPCS licence. BSNL has estimated that Rs. 52 crore would be required towards the cost of the gateway. DoT has given 'in principle' approval to provide support of $ 8 million to BSNL for establishment of GMPCS gateway in India. The Telecom Commission has recommended to grant a licence for **"Provision and Operation of INMARSAT Satellite based services using Gateway installed in India"** to M/s BSNL in the meeting of Telecom Commission held on date 13.06.2014. An amount of Rs. 10.00 crore has been proved in the BE 2014-15 for this Project. Proposal to provide budgetary support to BSNL amounting to Rs. $ 8 million, as total cost of the project, to establish GMPCS Gateway in India has been approved by the competent authority in DoT.

2.12.6 North East Projects executed by BSNL with Government Support

During natural calamities, disruption of telecom link between Agartala and Guwahati often happens due to OFC damages, which is a major cause of concern for telecom services in NE Region. Therefore, an alternate OFC link is needed to be established to have redundancy. Creating an alternate path through Bangladesh would help in routing traffic from whole North-East Region to rest of India and it would substantially enhance the connectivity as well as reliability of telecom services in the North East.

In this regard, a delegation consisting of officers from DoT, BSNL, MEA was visited to Bangladesh to discuss the issues with their counterparts. Following two proposals were discussed in this visit:

Project 1. **Connectivity of Agartala to Cox's Bazaar:** For providing connectivity from Agartala to Cox's Bazaar, Optical fibre cable (OFC) link is to be laid by BTCL/BSCCL from Akhaura (ICP) to Brahmanberia (a PoP of BTCL in Bangladesh near to Agartala). BSNL will hire Internet bandwidth from BSCCL. This is being negotiated with Bangladesh Submarine Cable Company Limited (BSCCL). The estimated CAPEX of the project is Rs 19.14 crores. The estimated OPEX per annum is Rs 7.20 crores.

Telecom Commission, in its meeting held on 15.10.2014, has recommended the proposal. The case has been approved by the Competent Authority in DoT.

Project 2. **Connectivity of Agartala to Kolkata (via Dhaka):** For providing connectivity from Agartala to Kolkata via Dhaka, optical fibre cable link is required to be established from Agartala to Brahminberia (Bangladesh) and Kolkata to Gade (Bangladesh). From Brahminberia to Gade (ICP), network of BTCL is available and BSNL will hire bandwidth from BTCL for proposed link in the territory of Bangladesh. This is being negotiated with Bangladesh Telecom Company Limited (BTCL). The estimated CAPEX of the project is Rs 12.87 crores. The estimated OPEX per annum is Rs 6.00 crores.

The proposal shall be submitted for the approval of the Competent Authority once the agreement is signed between BSNL and BTCL.

2.12.7 FTTH to the residences of MPs in New Delhi by MTNL

1. MTNL submitted a proposal seeking an upfront grant of Rs. 43.20 crore to fund the capex requirement for providing high speed broadband connection with wi-fi facility using FTTH Technology at the official residences of Member of Parliament.

2. This proposal was discussed in the ninth sitting of the House committee, Lok Sabha held on 7th November, 2014. MTNL assured the House Committee, Lok Sabha in its sitting held on 07.11.2014 that if the project is approved and necessary financial sanction is given, the work of laying FTTH in MP's residential areas in New Delhi would be completed within six months. Secretary, Department of Expenditure assured that necessary budgetary support would be given to Ministry of Communication/MTNL for executing the FTTH project.

3. Budget division of DoT was requested, vide O.M. dated 14th November,2014, to make a budget provision of **Rs. 43.20 crores** along with a new budget head for this purpose in the RE for FY 2014-15.

4. As per Delegation of Powers of Appraisal and Approval of Public funded Plan schemes/projects, as contained in Department of Expenditure's O.M. No. 24(35)/PF-II/2012 dated 29th August,2014, Secretary of the Administrative Department in consultation with Financial Advisor is competent to approve the project upto 100 crores.

5. Consequent upon receipt of the minutes of the ninth sitting of the House committee, Lok Sabha held on 7th November, 2014, the proposal seeking an upfront grant of Rs. 43.20 crore to fund the capex requirement for providing high speed broadband connection with wi-fi facility using FTTH Technology at the official residences of Member of Parliament was examined in consultation with DoT (F). MTNL has initiated work on the project which will be completed by August 2015.

2.12.8 Construction of New Building of DoT Hq

There is a proposal to construct a New Building of DoT HQ at CTS Compound Netaji Nagar, New Delhi. The present Sanchar Bhawan building is marred by various problems pertaining to corrosion to steel reinforcement, stagnation of water in terrace floor, seepage in the ceili8ng and walls, damage to building structure, nonworking of goods lift due to water stagnation in the lift well etc. to avoid further deterioration of the building and for safety, structural repairs are being taken up as a short term measure. in order to cope up the vast challenge and new areas emerging, the manpower requirement of DOT HQ has increased manifold.

	USOF 2015-16								
	CHAPTER OF OUTCOME BUDGET 2015-16						ANNEXURE-A reference 2.1		
	Name of the Scheme/Programme	Objective/Outcome	Outlay 2015-16 (Rs. In crores)			Quantifiable Deliverables/ Physical Output	Projected Outcome	Processes/ Timelines	Remarks/Risk factors
	2	3	4			5	6	7	8
			4 (i)	4(ii)	4(iii)				
S No.			Non Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				
1	Replacement of MARR VPTs (Total)	Note-1		0.14					See Note 1
2	Mobile phase-I	Setting up and managing 7353 infrastructure sites and provision of mobile services in rural and remote areas		1.25					See note -2
3	VPTs in newly identified uncovered inhabited villages as per Census 2001	Installation of VPTs in newly identified villages as per Census 2001		8.78					Roll out of the scheme is likely to be completed within the current financial year. However remainig VPTs. If left any, may be provided in FY 2015-16.
4	Solar Mobile charging Facilities	Financial Support for mobile charging stations in 5000 villages through TERI project of Lighting a Billion Lives (LaBL)		0.20					See note 3
5	Wireline broadband connectivity in rural and remote areas	Total 888832 BB connections and 28672 kiosks		81.81					Agreement is going to expire by Jan 2015 (See note-4)
6	Augmentation, creation & management of OFC Assam service area	OFC network augmentation between SDHQ & DHQ in Aasam		30.29		Complete Assam, 52 OFC Nodes	Complete Assam, 52 OFC Nodes	Dec-15	OFC laying depends on RoW permission from state government (see note -05)
7	National Optical Fiber Network for broadband connectivity to Panchayats (NOFN)	For providing broadband conecitity to 250000 village Gram Panchayats in the country through extending existing optical fiber network		9334.71		To connect 1,00,000 GPs	To connect 1,00,000 GPs	Mar-16	Railtel, BSNL and PGCIL are the 3 CPSUs esecuting the work. The proposed targets are linked with target to be achieved by the respectives CPSUs (see note 06)
8	Sanchar Shakti	For provision of mobile Value Added Services to rural women's SHGs for a period of one year		1.50					See Note 07
9	Augmentation, creation & Management of OFC network in NE-I & NE -II (Earlier titled as SAs other than Assam)	OFC n/w augmentation between SDHQ & DHQ in NE-I & NE-II		77.60		595 Nodes (188 in NE-I and 407 in NE-II)	595 Nodes (188 in NE-I and 407 in NE-II)	Mar 2016	Roll out yet to be start. OFC laying depends on RoW permission from state government.

10	Scheme Mobile Communications Services in LWE affected Areas	Provision of mobile services in about 2199 locations of LWE affected areas as identified by Ministry of Home Affairs		1230.00					See Note -8
11	Govt. User Network over NOFN	IT layer atop the telecom layer from district HQ to all Gram Panchayats.		500.00					Scheme is under cosideration to the Govt.
12	2 G coverage in Arunanchal Pradesh & e dristricts of Assam	2 G coverage in Arunanchal Pradesh & e districts of Assam		486.15					Scheme has been approved by the cabinet.
13	2 G coverage in other area of NER	2 G coverage in other area of NER		675.02					Scheme has been approved by the cabinet.
14	2G coverage along nation Highways	2G coverage along nation Highways		65.85					Scheme has been approved by the cabinet.
15	Transmission Media Plan	Strengthening the core network connectivity between State capitals and the respective District Headquarters (DHQs) within the State in the NER States.		98.66					Scheme is under implementation.
				12591.96					
		Round Off to		12600.00					

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. Financial outlay has beebn proposed on account of adjustments.

2. Mobile Ph-I: Financial outlay has been proposed for settlement of spill over.

3.SMCF: Financial outlay has been proposed for settlement of spill over.

4. 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. Agreement is going to expire by Jan,15. Financial outlay has been proposed for spill over.

5. OFC Assam: Augumentation, creation & management of OFC Network with higher band width to SDHQ/Blocks in Assam.

6. National Optical Fiber Network (NOFN). Plan to connect all the 2,50,000 Gram Panchayats in the country through optical fiber utilizing existing fiber network of PSUs viz. BSNL, RailTel and Power Grid and laying incremental fiber wherever necessary.

7. Sanchar Shakti : To facilitate women's Self Help Groups (SHGs) access to ICT enabled services. Financial support from USO Fund is envisaged to be provided towards mobile VAS subscriptions for SHGs.

8. Agreement signed on 30.09.2014 to install 2199 towers (1836 new sites & 363 sites already installed by BSNL) in left Wing Extremism (LWE) affected areas in 10 states.

Annexure - B

TELECOMMUNICATION ENGINEERING CENTRE **Ref : 2.2.**

Outcome Budget 2015

(`Rs in Crore)

Outcomes Budget (2015-16)									
									(Rs. In crore)
S. No.	**Name of the Scheme/ Programme**	**Objective/ Outcome**	**Outlay 2014-15**			**Quantifiable / Deliverables / Physical Output**	**Project Outcome**	**Process/ 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 (Figures in Unit)**								
1	New Generic Requirements, Interface requirements and Service Requirements.	Preparation of new GRs / Irs				15	15		
2	Review of GRs/ Irs	Revision of existing GRs / Irs				20	20		
3	Preparation of Test Schedule/ Test Procedure	Preparation of Test Schedule				35	35		
4	Type approval	Certification to uthorize use of equipment in telecom network				No target defined	As per actual application received		
5	Interface approvals of customer equipment					No target defined			
6	Certificate of Approval					No target defined	As per actual application received		
7	Fee collection from testing (Rupees of crore)	Fee collection from testing							
B	**Ongoing Project Activities**								

	NE- Region MH-45520020302- TEC 020152- M&E	Satellite based Broadband Network ---------- EMF Testing		1.0000		Part payment of BSNL to be released EMF Test instrument to be delivered	Part payment of BSNL to be released EMF Test instrument to be delivered		
	MH.52750080001-TEC								
1	**0101-NGN Test Lab** 010152-M&E			0.4000		Pending payment of vendor to be released after completion of pending points	Pending payment of vendor to be released after completion of pending points		
2	**0102-SAR Lab-** (Mumbai & Delhi) 010252-M&E	To carry out testing and certification of mobile equipment about specific Absorption Rate(SAR)		5.2000		pending payment of vendor to be released after completion of pending points of Delhi SAR Lab project & delivery of SAR Lab equipment at Mumbai	pending payment of vendor to be released after completion of pending points of Delhi SAR Lab project & delivery of SAR Lab equipment at Mumbai		
3	**0103-EMF measuring Instruments** 010352- M&E	Procurement of EMF instruments for TERM Cells of DoT to carry out the measurements of radiation levels from various BTS towers.		9.0000		Supply of EMF measuring equipment	Supply of EMF measuring equipment		
4	**0104-Wi Fi Lab** 010452-M&E	-							
5	**0105-Security Lab** 010552- M&E	To cater the telecom industry's need for security testing of various networks elements and CPEs		5.7992		Completion of Civil and Electrical works & delivery of equipment	Completion of Civil and Electrical works & delivery of equipment		

6	**0106-CPE Lab** 010652-M&E	To carry out testing of CPEs like telephone handset including multiline, cordless, CLIP, KTS, executive, Modems, telephone attachment, POS terminals, SIP terminals, Bluetooth, Wifi		4.0000		Completion of Civil and Electrical works & delivery of equipment	Completion of Civil and Electrical works & delivery of equipment		
7	**0107-Green Passport Lab** 010752- M&E	Certification of telecom product, equipment and service on the basis of ECR ratings, preparation of ECR document delineating the specification of the test procedure and methodology		2.0000		Procurement of Phase-I equipment	Procurement of Phase-I equipment		
8	0108-**Regional Test Lab** (Mumbai, Kolkata, Bengaluru, Delhi) 010852M&E	To carry out testing and certification of testing instrument		5.0000		Completion of Civil and Electrical works & delivery of equipment	Completion of Civil and Electrical works & delivery of equipment		
9	**LTE LAB** at TEC			5.0000		Completion of Civil and Electrical works & delivery of equipment	Completion of Civil and Electrical works & delivery of equipment		
10	MVL			0.1600		Procurement of vehicles against scrapped vehicles	Procurement of vehicles against scrapped vehicles		
11	**Cyber Security Lab** in NTIPRIT	To Ensure Security of Telecom Networks and to conduct training in telecom security and testing		0.5000		Completion of Civil and Electrical works	Completion of Civil and Electrical works		
12	**Setting up Knowledge Repository and Management Centre** in NTIPRIT	NTP-2012 envisages setting up a Telecom Knowledge Repository		1.3630		Preparation of SRS	Preparation of SRS		
	Total			**39.4222**					

Annexure – C
Ref: 2.3

WIRELESS PLANNING CO-ORDINATION
Outcome Budget 2015-16

(`Rs in Crore)

S. No.	Name of Scheme	Objective/ Outcome	Outlay 2015-16			Quantifiable Deliveries/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	National Spectrum Management and Monitoring System (NRSMMS)	Supervision of maintenance of facilities procured under NRSMMS project. Follow up of Arbitration	Nil	BE 1.92	Nil	1. Maintenance of facilities procured under NRSMMS project to make the system operational. 2. Making of spill over payment, if any due after Arbitrator decision. 3. Upgradation of software/hardware for ASMS/NSMS	--	--	--

Annexure - D
Ref: 2.4

WIRELESS MONITORING ORGANISATION
Outcome Budget 2015-16

(`Rs in Crore)

No.	Name of Schemes/ Programmes in 12th FYP	Objective/ Outcome 12th FYP	Outlay 2015-16 (Rs. In Crores)			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcome	Process/ Timelines	Remarks / Risk Factors
			Non-Plan Budget	Plan Budget	Complement-ary Extra-Budgetary Resources				
1.	2	3	4			5	6	7	8
	Technical Schemes		4(i)	4(ii)	4(iii)				
	Technical Schemes					**Procurement of:**			
1.	Mobile Monitoring, including Direction Finding, facility	Procurement of: • Vehicle-mounted monitoring terminals ▪ Transportable monitoring (including remote monitoring) terminals ▪ Man-pack monitoring terminals ▪ Vehicle-mounted direction finding terminals ▪ Transportable direction finding terminals ▪ Man-pack direction finding terminals ▪ Airborne mobile monitoring terminals ▪ 100 vehicles (mostly small sized, but some big trucks)	N/A	45.25 *	Nil	(a) Procurement of six vehicle-mounted mobile and portable monitoring terminals for the six newly established monitoring stations in the XIth FYP, at an estimated cost of Rs. 58.5 crore (Rs 45 crore towards procurement and Rs 13.5 crore towards AMC for three years). (b) Procurement of four microwave terminals planned earlier in the FY 2013-14, token amount of Rs. 0.25 crore. (c) Salary component of Rs 1.50 crore for the staff and other misc. office expenses of six newly created WMS's and Project Implementation Unit (PIU) proposed to be created in 12th FYP.	1. To equip new WMSs with monitoring facilities. 2. To augment / enhance monitoring capabilities at existing WMSs.	To be completed within 12th FYP	To be implemented with the approval of competent authority and concurrence of IFA

2.	Fixed Monitoring, including Direction Finding, facility	Procurement of : ▪ Terrestrial fixed monitoring systems ▪ Terrestrial fixed direction finding systems ▪ Satellite monitoring systems	N/A	2.35	Nil	(a) Procurement of 6 Nos. of fixed HF Fixed Monitoring facility for six new WMSs at an estimated cost of Rs 2.35 crore.	To address monitoring of transmissions in HF and lower bands as well as satellite emissions	Current F.Y.	To be implemented with the approval of competent authority and concurrence of IFA
3	Specialised hardware/ software and auxiliary components	To procure specialised hardware/ software and auxiliary components to enhance monitoring capabilities	N/A	7.50	Nil	(a) Procurement of Radio Network Analysers. (b) Replacement of existing five nos. specialized noise measurement equipments	To enhance monitoring capabilities of special transmissions	To be completed within 12th FYP	To be implemented with the approval of competent authority and concurrence of IFA
4	Manpower requirement	▪ Manning of Training and Development Centre ▪ Manning of six new WMSs created in 12th Five Year Plan ▪ Manning of microwave monitoring terminals ▪ Manning of Satellite Monitoring facility ▪ Manning of Type approval, testing, calibration and maintenance facility ▪ Manning of Project Implementation Unit	N/A	*	Nil	Creation of Project Implementation Unit.	To facilitate speedy implementation of Plan schemes under 12th FYP. Creation of posts under various 12th FYP schemes.	To be completed within 12th FYP	*Salary component to be met from Budgetary allocation under S.No.1 above

5.	Misc. Expenses i.e. Salary, Office & Travel etc.	Expenditure under the different heads including salary in respect of 6 new WMSs .	N/A	1.50	Nil	Misc. office expenses, Travel, Advt. Salary of the staff etc	Expenditure under the different heads including salary in respect of 6 new WMSs & PIU.		Subject to filling up of posts
	Total (A) Technical Schemes		N/A	**56.60**	Nil	N/A	N/A		.
6	**<u>Civil Schemes</u> Civil Works Total (B)**	Miscellaneous Civil works such as procurement of land, construction of office buildings, staff quarters & ancillaries.	N/A	**7.50**	Nil	Procurement of land & civil construction works at Dibrugarh, Lucknow, Patna, Vijayawada, Ranchi, Bangalore, Jammu, Jalandhar, Silliguri, , Goa, Mumbai, Delhi, Nagpur, Dehradun, Raipur, Bhubaneswar etc.	Housing of Monitoring establishments and staff in their own building	Execution of ongoing/ sanctioned civil construction works within 12th FYP	Subject to (i) availability of land with State Govts/BSNL, & dependency on construction work by CPWD/BSNL on time(ii) administrative approval & financial concurrence of the competent authority.
	G. Total (A) + (B)		N/A	**64.10**	Nil				

iv) The performances of the schemes are currently being monitored by a team of officers comprising of Director (HOD), Deputy Directors and Engineer-in-Charge in WMO, on regular basis.

Annexure - E

Ref: 2.5

CENTRE FOR DEVELOPMENT OF TELEMATICS
Outcome Budget 2015-16

(Rs in crores)

Sl. No.	Name of scheme / programme	Objective/ Outcome	Outlay 2015-16 (Proposed)			Quantifiable Deliverables/ Physical output of the project	Projected Outcome for the FY 2015-16	Process/ Timelines for the FY 2015-16		Remarks / Risk factors
1	2	3	4			5	6	7		8
			4(i)	4(ii)	4(iii)					
			Non Plan Budget	Plan budget	Complimentary extra budgetary Resources					
1	Communication security & research monitoring (CMS)	Progressively scaled up infrastructure creation for CMS national rollout.		135.24		Centralized Monitoring System (CMS) - Implementation & Roll-out in the field : RMCs, ISFs, ILDs, Data Center, DR infrastructure and related IT equipment	• RMC DC build with its IT infrastructure for 23 LSAs, CMC DR readiness, etc.	Q1	• Installation & integration of RMCs in remaining 7 LSAs; • Service commencement progressively • Data centre build at DR site.	• Service ommencement for all 21 LSAs planned
								Q2	• CMC DR infrastrucutre installation • Service commencement progressively	
								Q3 & Q4	Field support	
2	Broadband Technologies	Design, Development of a high capacity (terabit) router technology.		30.00		• Commercial grade multi terabit Router.	• Pilot / field trial of multi-terabit router	Q1	• Design implementation completion - Prototype system readines	
								Q2	• S/w porting, System integration & testing •Security appl. Design over meulti-terabit route	
								Q3	• Multi-terabit router sys. Validation; • Security appl. Intergartion	
								Q4	• Multi terabit router pilot trial; • Built-in security appl.val.	

3	Next generation mobile technology	To focus on Research & Development efforts on emerging Wireless Technologies for broadband Networks - 4G Technology.		26.00		4G Wireless Development				
(i)	LTE-A	Design & development of Femto eNodeB base station and the corresponding Evolved Packet Core (EPC).		26.00		• Femtto eNodeB system development • LTE macro base station development • Evolved Packet Core (EPC) development.	• Control Modules's - Radio Resource Mgmt. (RRM), Self Organizing Network (SON), Operation & Admn. Module (OAM); •Pilot trial of LTE in TDD band. • TotT for femto LTE TDD .	Q1	• Control Modules's development completion; Pilot trial for LTE sys in TDD band.	
								Q2	•Femto eNodeB integration withTDD RRH (Remote Radio Head)	
								Q3	•Femto eNodeB integration withFDD RRH; LTE macro sys. Development in TDD	
								Q4	•ToT for Femto LTE in TDD band	
4	Carrier networks' transport technology	To focus on Research & Development of optical access and aggregation system (OAAS) & optical Core networks (OCN)		53.00		Next Generation PON (NG-PON) & DWDM-based core network				Prototype NG-PON technology readiness for pilot trial
(i)	Optical Access & Aggregation system (OAAS)	Development of next generation PON technology		15.00		• 32G PON system : WDAN (WDM- based technology) • 10G- GPON system : X - G PON (TDM-based technology)	• 32G PON (WDAN system) • 10G PON OLT prototype	Q1	WDAN system pilot trial	
								Q2	• X-GPON OLT (Prototype)	
								Q3	• ONT with enhanced uplink redundaancy for backhaul appl. • WDAN system	
								Q4	WDAN system enhancement to support for AES 128	
(ii)	Optical Core	Development of 40G / 100G		38.00		• Terminal Equipment (TE)• ILAs (In Line	DWDM-based system	Q1	• Design completion for ROADM, TE with 40G	Technology being in the

	Network (OCN)	DWDM Optical Network System				Amplifiers)• ROADMs (Reconfigurable Optical Aaa-Drop Multiplexer)	supporting 100G line rates readiness		muxponder. ILA	nascent stage of development involve high end devices, their availability may impact the development schedule.
								Q2-Q3	• System integration & testing with TEs, ROADMs, 40G / 100G muxponder & ILAs	
								Q4	• Complete integrated DWDM system validation	
5	Secure wireless & wire-line networks	Tto focus on research and development for setting up a secure mobile communication networking using standard wireless technologies such as 3G, WiFi.		8.50		• Design and development of secure phone & tablet.	• Launch of WiPS services with secure tasblet	Q1	• Secure tablet readiness	Non-availablity of support from chipset vendors puts-off the smart phone development.
								Q2	• Integration & testing of secure tablet with secure core network	
								Q3 - Q4	• WiPS's services launch with secure tablet	
6	Telecom services & appplicatio n	Software intensive applications for Converged NMS service delivery platform to support multiple applications and value added services		22.00		• M2M (Machine-to-Machine) communication sys. • Cloud-based location finding application	• M2M prototype gateway implementation; • Distress caller location finder	Q1-Q4:	• Prototype M2M soln. implementation; • Cloud-based service roll-out study / & implementation of distress caller loccation finder	M2M is upcoming field and may require significant study of standards, and identtifying developmentr equired.
7	Satellite based technology	This scheme envisages the development of product(s) / technology based on the emerging requirements from prospective user organization(s)		11.00		Development of Satellite-based Hub baseband system	Carrier grade hubbaseband system development	Q1-Q4:	Carrier grade hubbaseband system development	System needs to be integraded in the client's network

8	Next generation security for telecom data network	To align development so that present CMS implementation with seamless assimilation of advance functionalities and capabilities evolve to new framework/ architecture to address the upcoming security challenges of the evolving networks.		36.50		Advance Intelligent Monitoring System (AIMS) for CMS archiitecture scaling up & interception solution for new technology, e.g. LTE, IP-TV, IMS converged & fixed mobile, etc.	• CMS technology enhancements & new architecture frame-work • Intelligent Manager (IM) software with basic AI techniques	Q1-Q3	• CMS technology enhancements & migration to new architecture - workflow optimization, support for higher traffic, etc.; • AI technique study & implementation in IM sofware	CMS technology enhancements progressively
								Q4	Pilot trial in the field for inerception soln. for IMS compliant converged platfrom; Readiness of IM software with AI techniques	
9	Enabling technologies & telecom networks	This scheme helps C-DoT tomaintain its position ofexcellence in R&D, byconducting basic research aswell as conducting studiesand setting up pilots innew/green field areas inTelecom Enablingtechnologies & Networks.		5.00		Projects related tofeasibility study / Proof ofconcept and setting uppilots in new / green fieldareas in telecom enablingtechnologies andnetworks.	• Proof ofconcept (PoC)• Feasibility study report	Q1-Q4:	The study programs are defined on year-to-year basis based on the technology forcasting trends, requirements of prospective R&D organization(s). etc.	
10	Power efficient & green telecom technologies	It is planned to undertake programs to put in R&D efforts to explore alternative sources of energy, and do design optimisations to enhance system power efficiency in the existing developed and deployed technologies as well as new		2.00		Development of green power supply system		Q1-Q4:	Design & development of green power supply system	Design & development of hybrid power supply system for BTS and other C-DOT technology products e.g. WiFi, CPE with optical interface (ONT), etc.

		technology programs.							
10 (i)	Enhancements / New Features / upgradation / adaptation / technical support for developed technologies	To focus on Research & Development efforts on enhancements, upgrade, update, evolution, feature addition, scalability, value addition and customization of developed technologies to meet changing requirements.		40.00		Design support for developed technologies	Q1 - Q4	Enhancements / New Features / upgradation / adaptation / technical support for developed technologies e.g. MAX-NG, BBWT, GPON, ATM, NMS, etc.	Support needed to keep the technologyupdated, enhanced with feature(s) additions, addressing component obsolescence, etc.
10 (ii)	IEBR supported programs - technology field implementations, etc.	To focus on technology field implementations / roll-outs, for some of the successfully field-tried systems		49.50		Support for field implementations for technologies	Q1 - Q4	Field implementations / roll-outs planned for MAX-NG in BSNL, NGN in MTNL, VoIP-based secure secure network for Indain army, customized routing paltform for defence, etc.	
11	Campus Infrastructure	Construction of residential facilities for CDOTians within the Delhi campus area, to facilitate flexible working hours conducive for R&D culture.		2.00		Construction of dwelling & Hostel facilities for C-DOT staff & Project Board	Q1 to Q4	Commencement of construction	Commencement of construction activity is subject to obtaining statutory approvals

										(being awaited)
	TOTAL			**420.74**						

Annexure -F

TELECOM REGULATORY AUTHORITY OF INDIA **Ref: 2.6**

Outcome Budget 2015-16

Sl. No.	Name of the Scheme / Programme	Objective / Outcome	Outlay 2015-16			Quantifiable deliverables / Physical outputs	Projected outcomes	Processes / Timelines	Remarks / Risk Factors
			4						
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
			Non Plan Budget	Plan Budget	Complementary Extra-Budgetary Resources				

1.	Institutional Capacity Building Project	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	--	20.00 Crores	--	(a) Consultative Studies / Workshop on Regulatory issues. The list of proposed consultancies / Studies proposed to be taken during the year 2015-16 is enclosed at Appendix	The proposed studies will help TRAI in formulating its Recommendations and in other Regulatory functions	To be completed during 2015-16	
						(b) Provision of training of TRAI official on technical and Regulatory issues	To meet the training needs of TRAI officials		
2.	Purchase of Land and Building (Capital) for TRAI Office	To obtain own office premises		500.00 crores	--				Funds made available under 'TRAI General Fund' (a non-lapsable fund) are proposed to be utilized as and when the proposal materialize

Annexure-G
Ref: 2.7

TELECOM DISPUTES SETTLEMENT & APPELLATE TRIBUNAL (TDSAT)
Outcome Budget 2015-16

(Rs. In Crore)

S.No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2015-16	Quantifiable Deliverables /Physical Outputs	Projected Outcomes	Process/ 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	Upgradation of TDSAT Reference Library	Purchase of books and other related materials to strengthen the Library		0.10					
2	Study tour for Familiarisation with the telecom regulatory Environment and Settlement of disputes / Training	Countries to be visited by the Hon'ble Chairperson & Members will be decided in the first quarter and thereafter study tours will be undertaken accordingly. Training programme for officers will be identified.		1.00					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		0.45		-			Action taken would depend on the identification of places in the first quarter, targets have to be fixed accordingly for the next three quarters.

Annexure –H

Ref: 2.8

BHARAT SANCHAR NIGAM LIMITED
Outcome Budget 2015-16

(`Rs in crore)

S. No.	Name of Scheme / Programme	Objective / Outcome	Quantifiable Deliverables ** (Physical Target)	Annual Plan 2015-16 (Rs. in Crores)	Process/ Timelines	Achievements w.r.t Col (4) as on ….	Remarks
1	2	3	4	5	6	7	8

1	Mobile	Addition in GSM capacity	60 lakh	4485.68			
		Addition in GSM Mobile VLR connections	55 lakh				
2	Wireline	Replacement of legacy wireline exchanges by Next Generation network (NGN)	5 lakh	1736.57			
3	Broadband	To provide broadband connections (Wireline + Wireless)	30 lakh	573.39			
4	OFC	Laying & commisioning of OFC to provide transmission network for new exchange & Mobile equipment and provide bandwidth for core network.	15000 RKMs	2201.6			
5	Others *			798.76			

Note:- 1.* Others includes funds requirement of IT, USO, Civil, Elect, TF, Ancilliary units etc.

Annexure- I
Ref: 2.9

MAHANAGAR TELEPHONE NIGAM LIMITED
Outcome Budget 2015-16

(` Rs in Crore)

Outcome Budget 2015-16									
									(Rs in crore)
S.No	**Name of the Scheme/programme**	**Objective/ Outcome**	**Outlay 2015-16**			**Quantifiable Deliverables / Physical Output**	**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	Net new connections including landline,Cellular and broadband connections (in K) *	Increase in Net new customers	-	-	-	400K	-	With in year 2015-16	
2	New Switching Capacity addition including capacity for WLL GSM, NGN ,IMS (in K)	Increase in Net Switching Capacity	_	772.6	_	Addition of 900K lines in GSM network	Expansion of 2G / 3G GSM network	With in year 2015-16	Delay in supplies by supplier , AT problem in site acqusition and finalization of tender/ orders. Delay in permissiion for digging/laying of ducts for cables.
3	Deployment of DSLAM / FTTH (in K)	Increase in broadband and FTTH ports				Addition of 165K ports	Increase in broadband and FTTH capacity	-	
4	Optical Fibre Cable (in K Fiber Km)	Laying Of Optical Fiber				Laying of 30K fiber	Expansion of Fiber network	-	
5	IT related services	IT related Projects	_	31.52	_	Completion of various IT related projects	Completion of various IT related projects	-	
6	Expansion in New Services Areas abroad and National acquisitions	Service in Overseas Operations	_	1.00	_	_	_	Subject to new overseas suitable opportunities	
	Total			**805.14**					
* Net new connection targets will not includes the disconnected dormant GSM subscribers (subscribers inactive for more than one year).									

Annexure - J

ITI LIMITED **Ref: 2.10**

Outcome Budget 2015-16

` in Crore

Sl.No	Products	Target plan (without ED & Service Tax)
1	**SWITCHING** (NGN,SSTP,MLLN, IPTAX , OCB, C-DoT, etc.)	**180**
2	**TRANSMISSION** (STM 1,16 & 64, PCM MuX, DWDM , Radio Modem, Carrier Ether Net, etc.)	**200**
3	**WIRELESS & BROAD BAND** (ADSL-CPE, ADSL-DSLAM, GPoN,CDMA, GSM Equipment, etc.)	**130**
4	**SERVICES** (NPR Data collections,Data Centre, AMC Business , Ros & IT, NSU, GSM Franchise, NFS Cable laying, NOFN, etc.)	**1340**
5	**OTHERS** (NPR/MNID Smart SIM, USIM, SMPS, Banking Products, Cont.Mfg., Tablet PC, NFS Equip, Defence Prod., CIL Phone, Solar Penel, LED base prod. etc.)	**650**
	TOTAL	**2500**

Annexure - K
Ref: 2.11

DoT Schemes
Outcome Budget 2015-16
NATIONAL INSTITUTE OF COMMUNICATION FINANCE
ALT CENTRE, GHAZIABAD-201 002 [U.P.]

(`Rs in Crore)

S. No.	Name of Schemes/ Programmes	Objective/ Outcome	OUTLAY 2015-16			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	HRM for IP&TAFS (i) Mid Career Training	Five stage Training programmes for IP&TAFS officers	--	8.0	--	For institutionalized training(MCT) to individual officers for career progression preliminary work such as course development and design, preparation of course kit, Academic inputs exposure to various National/ International Institute/Organisation.	-	FY-2015-16	Subject to the Competent Authority.
	HRM for IP&TAFS ii) Induction & In-service Course	Induction training of Gr.A, Gr.B and Gr.C officers and regular Inservice courses as per schedule and on relevant issues.	--	4.0	--	IP&TAFS Gr.A Probationers would be trained. Gr.B and Gr.C officers Induction training		FY-2015-16	
	HRM FOR IP&TAFS iii) Institutional & Capacity Development Schemes & Initiatives	Ongoing process	--	3.0	--	Development of web based knowledge management portal, International co-operation and training in the field of communications etc.		FY-2015-16	Subject to the Competent Authority.
2	PHYSICAL INFRASTRUCTURE FOR NICF	Building of NICF campus at Ghitorni, New Delhi	--	91.28	--	(i) Clearance from various local bodies for construction of building. (ii) Appointment of agency for Architectural drawing and Execution of work for the Project. (iii) Execution of Civil work.		FY-2015-16	Subject to the Competent Authority.

Outcome Budget for 2015-16

Annexure- L
Ref: 2.12.2 to 2.12.7

Sl. No.	Name of the Scheme / Programme	Objectives / Outcome	Outlay 2015-16			Quantifiable deliverables / Physical output	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 EBR				
1	OFC Network for Defence Services (NFS)	To implement an OFC Network for Defence Services		5000	Nil	60000 KM OFC, and overlay electronics	60000 KM OFC, and overlay electronics	Cabinet approved the project on 3.7.12 with a target of 36 months. The project is running as per schedule.	As the major part of OFC is to be laid in J&K, Hp and North East, the project may slip beyond timelines due to difficult terrain and tuff weather conditions.
2	Microwave link between Champhai to Zokhawthar	To implement a Microwave link between Champhai to Zokhawthar		3	Nil	Microwave link as stand by to OFC from Champhai to Zokhawthar. It will have two terminals and one repeater.	Microwave link as stand by to OFC from Champhai to Zokhawthar. It will have two terminals and one repeater.	The link is to be completed in two years of 2014-15 and 2015-16. The project is running as per schedule.	NIL
3	Sub marine cable Connectivity to Andaman & Nicobar Islands	To install a Sub marine cable Connectivity to Andaman & Nicobar Islands		1	Nil	Chennai to Port Blair, Port Blair to little Andaman and Little Andaman to Kar Nicobar submarine OFC cable.	Chennai to Port Blair, Port Blair to little Andaman and Little Andaman to Kar Nicobar submarine OFC cable.	TCIL has been entrusted to prepare the DPR. The DPR is expected by April, 2015. The whole project is likely to take three years.	NIL
4	Establishment of	This is for establishme		40	Nil	Satellite gateway to be established in	Satellite gateway to be	BSNL has entered into an agreement to	NIL

	Satellite Gateway assistance to BSNL	nt of Satellite Gateway assistance to BSNL				India so that call can route through that gateway for India.	established in India so that call can route through that gateway for India.	INMARSET. The project is expected to be completed in 2015-16.	
5	North East Projects executed by BSNL with Governmen t Support	To provide grant to BSNL for executing several projects for DoT for improving telecom facilities in NER.		20	Nil	This provide alternate internet connectivity to North East from Bangladesh. Also this will provide an alternate link from Agartala to Kolkata via Dhaka.	This provide alternate internet connectivity to North East from Bangladesh. Also this will provide an alternate link from Agartala to Kolkata via Dhaka.	BSNL has entered into an MOU with Bangladesh Submarine Company to provide internet connectivity from Cox Bazar Bangaladesh to Agartala. The project is likely to be completed in 2015-16.	NIL
6	FTTH to the residences of MPs in New Delhi	To lay OFC to the residences of MPs in New Delhi		38.60	Nil	This will provide a facility of broadband through OFC to the official residencies of MPs in New Delhi.	This will provide a facility of broadband through OFC to the official residencies of MPs in New Delhi.	The project is likely to be completed in 2015-16.	NIL

Annexure- M
Ref: 2.12.8

DoT Schemes
Outcome Budget 2015-16

S. No.	Name of Schemes/ Programmes	Objective/ Outcome	OUTLAY 2015-16			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				
1	New Building of DoT HQ at CTS Compound , Netaji Nagar , New Delhi	Construction of six story new Building for DoT HQ	2	50		As per the Feasibility Report, the proposed building, with an estimated occupancy of 1250, shall have 6 storeys (G+5) with basement for parking and carpet area of 15353 Sq.mt. and plinth area of 24565 Sq.mt. The provision of basement for parking shall be over and above the plinth area. However, the final deliverables shall be based on DPR and final	• The present Sanchar Bhawan building is marred by various problems pertaining to corrosion of steel reinforcement, stagnation of water in terrace floor, seepage in the ceiling and walls, damage to building structure, nonworking of Goods lift due to water stagnation in the lift well etc. • To avoid further deterioration of the building and for safety, structural repairs are being taken up as a short term measure. In order to cope up the vast challenge and new areas emerging, the manpower requirement of DOT HQ has increased manifold.	CPWD to execute the work on turnkey basis. Processes include signing of MOU, Appointment of Architectural Consultant, DPR preparation, approval of DPR, execution etc. Total time- 36 months	This is as per the meeting held with CPWD, Chaired by SS(T) on 19.02.2015

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 fulfilment 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 2012

- National Telecom Policy-2012 (NTP-2012), approved by Union Cabinet on 31st May 2012, addresses the Vision, Strategic direction and the various Medium term and Long term issues related to Telecom sector.
- The primary objective of NTP-2012 is maximizing public good by making available affordable, reliable and secure telecommunication and broadband services across the entire country. The main thrust of the Policy is on the multiplier effect and transformational impact of such services on the overall economy. It recognizes the role of such services in furthering the national development agenda while enhancing equity and inclusiveness. Availability of affordable and effective communications for the citizens is at the core of the vision and goal of the National Telecom Policy – 2012. NTP-2012 also recognizes the predominant role of the private sector in this field and the consequent policy imperative of ensuring continued viability of service providers in a competitive environment. Pursuant to NTP-2012, these principles would guide decisions needed to strike a balance between the interests of users/ consumers, service providers and government revenue.

Salient features of the policy

LICENSING, CONVERGENCE AND VALUE ADDED SERVICES

- Strive to create ***One Nation - One License*** across services and service areas.
- Achieve ***One Nation - Full Mobile Number Portability*** and work towards ***One Nation - Free Roaming***.
- To orient, review and harmonise the legal, regulatory and licensing framework in a time bound manner to enable seamless delivery of converged services in technology neutral environment. Convergence would cover:
    - Convergence of services i.e. convergence of voice, data, video, Internet telephony (VoIP), value added services and broadcasting services

- Convergence of networks i.e. convergence of access network, carriage network (NLD/ ILD) and broadcast network
- Convergence of devices i.e. telephone, Personal Computer, Television, Radio, set top boxes and other connected devices.

- To ***move towards Unified Licence regime*** in order to exploit the attendant benefits of convergence, spectrum liberalisation and facilitate ***delinking of the licensing of Networks from the delivery of Services to the end users*** in order to enable operators to optimally and efficiently utilise their networks and spectrum by sharing active and passive infrastructure. This will enhance the quality of service, optimize investments and help address the issue of the digital divide. This new licensing regime will address the requirements of level playing field, rollout obligations, policy on merger & acquisition, non-discriminatory interconnection including interconnection at IP level etc. while ensuring adequate competition.
- Put in place a simplified Merger & Acquisition regime in telecom service sector while ensuring adequate competition.
- To ***facilitate resale at the service level*** under the proposed licensing regime – both wholesale and retail, for example, by introduction of virtual operators – in tune with the need for robust competition at consumer end while ensuring due compliance with security and other license related obligations.
- To ***delink spectrum in respect of all future licences***. Spectrum shall be made available at a price determined through market related processes.
- To ***frame appropriate Policies*** for new licensing framework, migration of existing licensees to new framework, exit policy, measures for ensuring adequate competition etc. in consultation with TRAI.
- To facilitate ***convergence of local cable TV networks*** post digitalisation.
- To put in place an appropriate regulatory framework for delivery of ***VAS at affordable price*** so as to fuel growth in entrepreneurship, innovation and provision of ***region specific content in regional languages***.
- To put in place a framework ***to regulate the carriage charges, which are content neutral and based on the bandwidth utilisation***. This will also encourage non value added services such as provision of data and information over the mobile platform.
- ***Reposition the mobile phone*** from a mere communication device ***to an instrument of empowerment*** that combines communication with proof of identity, fully secure financial and other transaction capability, multi-lingual services and a whole range of other capabilities that ride on them and transcend the literacy barrier.

SPECTRUM MANAGEMENT

- Ensure adequate availability of spectrum and its allocation in a transparent manner through market related processes. ***Make available additional 300 MHz spectrum for IMT services by the year 2017 and another 200 MHz by 2020.***
- To move at the earliest towards liberalisation of spectrum to enable use of spectrum in any band to provide any service in any technology as well as to permit ***spectrum pooling, sharing and later, trading*** to enable optimal utilisation of spectrum through appropriate regulatory framework..
- To undertake ***periodic audit*** of spectrum utilisation to ensure its efficient use.

- To refarm spectrum and allot alternative frequency bands or media to service providers from time to time to make spectrum available for introduction of new technologies for telecom applications.
- To ***prepare a roadmap*** for availability of additional spectrum every 5 years.

BROADBAND AND RURAL TELEPHONY

- ***Increase rural teledensity from the current level of around 39 to 70 by the year 2017 and 100 by the year 2020. .***
- To recognise telecom, including broadband connectivity as a basic necessity like education and health and work towards **'Right to Broadband'.**
- *Provide affordable and reliable* ***broadband-on-demand by the year 2015*** *and* ***to achieve 175 million broadband connections by the year 2017 and 600 million by the year 2020 at minimum 2 Mbps download speed and making available higher speeds of at least 100 Mbps on demand.***
- ***Provide high speed and high quality broadband access to all village panchayats through a combination of technologies by the year 2014 and*** progressively to all villages and habitations by 2020.

R&D, MANUFACTURING AND STANDARDIZATION OF TELECOMMUNICATION EQUIPMENT

- Promote the ecosystem for design, Research and Development, IPR creation, testing, standardization and manufacturing i.e. complete value chain for domestic production of telecommunication equipment to ***meet Indian telecom sector demand to the extent of 60% and 80% with a minimum value addition of 45% and 65% by the year 2017 and 2020 respectively***

- ***Create a corpus to promote indigenous R&D, IPR creation, entrepreneurship, manufacturing, commercialisation and deployment of state-of-the-art telecom products and services during the 12th five year plan period.***

- To promote ***setting up of Telecommunications Standard Development Organisation (TSDO)*** as an autonomous body with effective participation of the government, industry, R&D centres, service providers, and academia to drive consensus regarding standards to meet national requirements including security needs. It will facilitate access for all the stakeholders in the International Standards Development Organisations and act as an advisory body for preparation of national contributions for incorporation of Indian requirement/IPRs/standards in the international standards.
-
- ***Provide preferen***ce to domestically manufactured telecommunication products, in procurement of those telecommunication products which have security implications for the country and in Government procurement for its own use, consistent with our World Trade Organization (WTO) commitments.

TELECOM INFRASTRUCTURE/ RIGHT OF WAY (ROW) ISSUES, GREEN TELECOM, CLEAR SKYLINE, MITIGATION EFFORTS DURING DISASTERS AND EMERGENCIES

- To work towards ***recognition of telecom as Infrastructure Sector for both wireline and wireless*** and extension of the benefits available to infrastructure sectors to telecom sector also, to realize true potential of ICT for development.
- To facilitate increased use of alternative sources (Renewable Energy Technologies) of energy for powering telecom networks through active participation of all the stakeholders – the government, the telecom industry and the consumer for green telecommunications. Sector specific schemes and targets for promotion of green technologies will be finalised in consultation with Ministry of New and Renewable Energy (MNRE) and other stakeholders.

QUALITY OF SERVICE AND PROTECTION OF CONSUMER INTEREST

- To strengthen the regulator for ensuring compliance of the prescribed performance standards and Quality of Service (QoS) parameters by the Telecom Service Providers
- To formulate a ***Code of Practice for Sales and Marketing Communications*** to improve transparency as well as address security issues relating to Customer Acquisition
- To ***undertake legislative measures*** to bring disputes between telecom consumers and service providers ***within the jurisdiction of Consumer Forums*** established under Consumer Protection Act.

SECURITY

- To create an institutional framework through regulatory measures to ensure that ***safe-to-connect*** devices are inducted into the Telecom Network and service providers take measures for ensuring the security of the network..
- To ensure security in an increasingly insecure cyber space, indigenously manufactured multi-functional SIM cards with indigenously designed chips incorporating specific laid down standards are considered critical. The whole electronics eco-system for this and other purposes, starting from the wafer fab needs to be built and hence is viewed as a key policy objective and outcome.

SKILL DEVELOPMENT AND PUBLIC SECTOR

- To ***assess the manpower requirement at different skill and expertise levels by partnering*** with ***National Skill Development Council*** and ***industry*** to identify the relevant needs of the sector and prepare a roadmap.

CLOUD SERVICES

- To recognise that cloud computing will significantly speed up design and roll out of services, enable social networking and participative governance and e-Commerce on a scale which was not possible with traditional technology solutions.

- To take new policy initiatives to ensure rapid expansion of new services and technologies at globally competitive prices by addressing the concerns of cloud users and other stakeholders including specific steps that need to be taken for lowering the cost of service delivery.

TELECOM ENTERPRISE SERVICES, DATA USE NEW TECHNOLOGIES AND IPV 6 COMPLIANT NETWORKS

- To facilitate the role of new technologies in furthering public welfare and enhanced customer choices through affordable access and efficient service delivery. The emergence of new service formats such as ***Machine-to-Machine (M2M) communications*** (e.g. remotely operated irrigation pumps, smart grid etc.) represent tremendous opportunities, especially as their roll-out becomes more widespread.
- To recognize the importance of the new Internet Protocol IPv6 to start offering new IP based services on the new protocol and to encourage new and innovative IPv6 based applications in different sectors of the economy by enabling participatory approach of all stake holders.

FINANCING OF TELECOM SECTOR

- To create a ***Telecom Finance Corporation*** as a vehicle to mobilize and channelize financing for telecom projects in order to facilitate investment in the telecom sector.
- To ***rationalize taxes, duties and levies affecting the sector and work towards providing a stable fiscal regime*** to stimulate investments and making services more affordable.

ROLE OF REGULATOR, CHANGES IN LEGISLATION

- To review the TRAI Act with a view to addressing regulatory inadequacies/ impediments in effective discharge of its functions.
- To undertake a comprehensive review of Indian Telegraph Act and its rules and other allied legislations with a view to making them consistent with and in furtherance of the above policy objectives.

OPERATIONALISATION OF THE POLICY

- To take suitable facilitatory measures to encourage existing service providers to rapidly migrate to the new regime in a uniformly liberalised environment with a level playing field.
- Policy will be operationalized by bringing out detailed guidelines, as may be considered appropriate, from time to time.

3.4 Unified Licence

Unified Licence for Telecommunications services permitting Licensee to provide all telecommunication / telegraph services covering various geographical areas using any technology was envisaged by the Government in November 2003. The Unified Licence (UL)

regime for same has been operatinalised in August 2013. With UL regime in place, all new licences are granted only in UL regime. “

The Department has granted Unified Licenses to three other companies i.e. M/s Sify Technologies Limited, M/s Hughes Communication India Limited and M/s Sprint Telecom India Private Limited during the period April-September, 2014. One Unified License has been given to M/s Bharti Airtel Limited on 16.10.2014. The list of Unified Licensees upto 16.10.2014 is below:

List of Unified licences Up to 16.10.2014

S NO	Name of Company	Date of grant of Unified Licence	Authorisation detail		Date of Authorisation
			Service	Service Area	
1	Idea Cellular Limited	11-10-2013	Access Service	Assam	11-10-2013
			Access Service	West Bengal	
			Access Service	Kolkata	
			Access Service	North East	
			Access Service	Tamil Nadu (incl Chennai)	
			Access Service	J&K	
			Access Service	Orissa	
2	Reliance Jio Infocomm Ltd	21-10-2013	Access Service	All Circles	21-10-2013
			NLD	National Area	
			ILD	National Area	
			VSAT	National Area	
			PMRTS	National Area	
			INSAT MSS-R	National Area	
			ISP-"A"	National Area	
			Resale IPLC	National Area	
3	Sistema Shyam Teleservices Limited	03-10-2013	Access Service	Delhi	03.10.2013
			Access Service	Gujarat	
			Access Service	Karnataka	
			Access Service	Kerala	
			Access Service	Kolkata	
			Access Service	Tamil Nadu	
			Access Service	UP (West)	
			Access Service	West Bengal	
			NLD Service	National Area	03.09.2014

4	M/s Telewings Communications Pvt Ltd	27.11.2013	Access Service	Andhra Pradesh	27.11.2013
			Access Service	Bihar	
			Access Service	Gujarat	
			Access Service	Maharashtra	
			Access Service	UP(East)	
			Access Service	UP(West)	
			NLD	National Area	21.08.2014
			ILD	National Area	
			Access Service	Assam	28.08.2014
			ISP-"A"	National Area	
5	M/s Sify Technologies Limited	27.06.2014	ISP Category-A	National Area	27.06.2014
			NLD Service	National Area	
			ILD Service	National Area	
6	M/s Hughes Communications India Limited	01.08.2014	CUG VSAT	National Area	01.08.2014
			NLD	National Area	02.09.2014
7	M/s Sprint Telecom India Private Limited	29.08.2014	NLD	National Area	29.08.2014
			ILD	National Area	
			ISP Category-A	National Area	
8	M/s Bharti Airtel Limited	16.10.2014	Access Service	Delhi	29.11.2014
			Access Service	Kolkata	30.11.2014
			ISP-"A"	National Area	03.03.2014

3.4.1 Full Mobile Number Portability: National Telecom Policy 2012 envisages achieving of One Nation - Full Mobile Number Portability in the Country. In this regard, the Department has carried out necessary amendment to Mobile Number Portability license conditions and other instructions in accordance with the recommendations of TRAI on 03.11.2014 and the operators have been given a time period of 6 months to implement the same. Details are as below:

(A) Mobile Number Portability (MNP)

MNP allows subscribers to retain their existing mobile number when they switch from one telecom access service provider to another irrespective of mobile technology or from one technology to another of the same or any other telecom access service provider. At present Mobile Number Portability is in operation in country within the same Licensed Service Area only.

(B) Launch of MNP in Country

The Intra-Licensed Service Area Mobile Number Portability (MNP) was launched in Haryana Licensed Service Area (LSA) on 25th November 2010 and in rest of the country on 20th January 2011.

(C) Mobile Number Portability Service Providers

Presently two MNP service providers namely M/s. Syniverse Technologies (India) Private Limited & M/s. MNP Interconnection Telecom Solutions India Pvt. Ltd. are providing services in their respective zones in the Country. Each of them caters for 11 Access Licensed Service Areas.

(D) Cumulative Porting requests since the launch of MNP facility in the Country

Since the launch of MNP facility in the Country, 129.56 million cumulative porting have been submitted by the subscribers till the end of August 2014.

3.4.2 Guidelines for Merger and Acquisition: National Telecom Policy 2012 envisages one of the strategy for the telecom sector to put in place simplified Merger & Acquisition regime in telecom service sector while ensuring adequate competition. In this regard, the simplified guidelines for Merger and Acquisition have been issued by the Department on 20.02.2014.

Guidelines for Transfer/Merger of various categories of Telecommunication service licences/authorisation under Unified Licence (UL) on compromises, arrangements and amalgamation of the companies.

1. National Telecom Policy -2012 envisages one of the strategy for the telecom sector to put in place simplified Merger & Acquisition regime in telecom service sector while ensuring adequate competition. This sector has been further liberalised by allowing 100% FDI. Further, it has been decided in-principle to allow trading of spectrum. The Companies Act of 1956 has also been amended by Companies Act of 2013 and the amendments have been made in reference to compromises/arrangements and amalgamations of companies. SEBI has also prescribed procedure for IPO.

2. The scheme of compromises, arrangements and amalgamation of companies is governed by the various provisions of the Companies Act, 2013 as amended from time to time. Such schemes is to be approved by National Company Law Tribunal to be constituted under the provisions of Companies Act, 2013. Consequently, the various licences granted under section 4 of Indian Telegraph Act, 1885 to such companies need to be transferred to the resultant entity (ies). It is also noted that such schemes may comprise of merger by formation or merger by absorbtion or arrangement or amalgamation etc. of company (ies) and thereafter merging/transferring such licences/authorisation subject to the condition that the resultant entity being eligible to acquire such licence/authorisation in terms of extant guidelines issued from time to time.

3. Earlier department has issued Guidelines for intra service area Merger of Cellular Mobile Telephone Service (CMTS)/ Unified Access Services (UAS) Licences vide Office Memo No.20-232/2004-BS-III dated 22nd April 2008. Taking into consideration the above and taking into consideration the TRAI's Recommendations dated 11.05.2010 and 03.11.2011 and National Telecom Policy 2012, in supersession of these guidelines, it has been further decided that Transfer/ Merger of various categories of Telecom services licences/ authorisation under UL shall be permitted as per the guidelines mentioned below for proper

conduct of Telegraphs and Telecommunication services, thereby serving the public interest in general and consumer interest in particular: -

a) The lisencor shall be notified for any proposal for compromise, arrangements and amalgamation of companies as filed before the Tribunal or the Company Judge. Further, representation/objection, if any, by the Licensor on such scheme has to be made and informed to all concerned within 30 days of receipt of such notice.

b) A time period of one year will be allowed for transfer/merger of various licences in different service areas in such cases subsequent to the appropriate approval of such scheme by the Tribunal/Company Judge.

c) If a licensee participates in an auction and is consequently subject to a lock-in condition, then if such a licensee propose to merge/compromise/arrange/amalgamate into another licensee as per the provisions of applicable Companies Act, the lock-in period would apply in respect of new shares which would be issued in respect of the resultant company (transferee company). The substantial Equity/ Cross Holding clause shall not be applicable during this period of one yearunless extended otherwise.This period can be extended by the Licensorby recording reasons in writing..

d) The merger of licenses/authorisation shall be for respective service category. As access service licence/authorisation allows provision of internet services, the merger of ISP licence/authorisation with access services licence/authorisation shall also be permitted.

e) Consequent to transfer of assets/ licences/authorisation held by transferor (acquired) company to the transferee (acquiring) company, the licences/authorisation of transferor (acquired) company will be subsumed in the resultant entity. Consequently, the date of validity of various licences/authorisation shall be as per licenses/authorisation will be equal to the higher of the two periods on the date of merger subject to pro-rata payments, if any, for the extended period of the licence/authorisation for that service.However, the validity period of the spectrum shall remain unchanged subsequent to such transfer of asset/licences/authorisation held by the transferor (acquired) company.

f) For any additional service or any licence area/service area, Unified Licence with respective authorisation is to be obtained.

g) Taking into consideration the spectrum cap of 50% in a band for access services, transfer/merger of licences consequent to compromise, arrangements or amalgation of companies shall be allowed where market share for access services in respective service area of the resultant entity is upto 50%. In case the merger or acquisition or amalgamation proposals results in market share in any service area(s) exceeding 50%, the resultant entity should reduce its market share to the limit of 50% within a period of one year from the date of approval of merger or acquisition or amalgamation by the competent authority. If the resultant entity fails to reduce its market share to the limit of

50% within the specified period of one year, then suitable action shall be initiated by the licensor.

h) For determining the aforesaid market share, market share of both subscriber base and Adjusted Gross Revenue (AGR) of licensee in the relevant market shall be considered. The entire access market will be the relevant market for determining the market share which will include wireline as well as wireless subscribers. Exchange Data Records (EDR) shall be used in the calculation of wireline subscribers and Visitor Location Register (VLR) data or equivalent, in the calculation of wireless subscribers for the purpose of computing market share based on subscriber base. The reference date for taking into account EDR/VLR data of equivalent shall be 31st December or 30th June of each year depending on the date of application. The duly audited AGR shall be the basis of computing revenue based market share for operators in the relevant market. The date for duly audited AGR would be 31st March of the preceding year.

i) If a transferor (acquired) company holds a part of spectrum, which (4.4 MHz/2.5 MHz) has been assigned against the entry fee paid, the transferee (acquiring) company (i.e. resultant merged entity), at the time of merger, shallpay to the Government, the differential between the entry fee and the market determined price of spectrum from the date of approval of such arrangements by the National Company Law Tribunal/Company Judge on a pro-rata basis for the remaining period of validity of the license(s). No separate charge shall be levied for spectrum acquired through auctions conducted from year 2010 onwards. Since auction determined price of the spectrum is valid for a period of one year, thereafter, PLR at State Bank of India rates shall be added to the last auction determined price to arrive at market determined price after a period of one year. In the event of judicial intervention in respect of the demands raised for one time spectrum charges in respect of the spectrum holding beyond 4.4 MHz in GSM band/2.5 MHz in CDMA band before merger in respect of transferee (i.e. acquiring entity) company, a bank guarantee for an amount equal to the demand raised by the department for one time spectrum charge shall be submitted pending final outcome of the court case.

j) The Spectrum Usage Charge (SUC) as prescribed by the Government from time to time, on the total spectrum holding of the resultant entity shall also be payable.

k) Consequent upon the implementation of scheme of compromises, arrangements or amalgation and merger of licenses in a service area thereupon, the total spectrum held by the Resultant entity shall not exceed 25% of the total spectrum assigned for access services and 50% of the spectrum assigned in a given band, by way of auction or otherwise, in the concerned service area. The bands will be as counted for such cap in respective NIAs for auction of spectrum. In respect of 800 MHz band, the ceiling will be 10 MHz. Moreover, the relevant conditions pertaining to auction of that spectrum shall apply. In case of future auctions, the relevant conditions prescribed for such auction shall be applicable. However, in case transferor and transferee company had been allocated one block of 3G spectrum through the auction conducted for 3G/BWA spectrum in 2010, the resultant entity shall also be allowed to retain two blocks of 3G spectrum in respective service areas as a result of compromises, arrangements and amalgamation of

the companies and Transfer/Merger of various categories of Telecommunication service licences/authorisation under Unified Licence (UL), being within 50% of spectrum band cap.

l) If, as a result of merger, the total spectrum held by the relevant entity is beyond the limits prescribed, the excess spectrum must be surrendered within one year of the permission being granted. The applicable Spectrum Usage Charges on the total spectrum holding of the resultant entity shall be levied for such period. If the spectrum beyond prescribed limit is not surrendered by the merged entity within one year, then, separate action in such cases, under the respective licenses / statutory provisions, may be taken by the Government for non surrender of the excess spectrum. However no refund or set off of money paid and/or payable for excess spectrum will be made.

m) All demands, if any, relating to the licences of merging entities, will have to be cleared by either of the two licensees before issue of the permission for merger/ transfer of licenses/authorisation. This shall be as per demand raised by the Government/ licensor based on the returns filed by the company notwithstanding any pending legal cases or disputes. An undertaking shall be submitted by the resultant entity to the effect that any demand raised for pre-merger period of transferor or transferee company shall be paid. However, the demands except for one time spectrum charges of transferor and transferee company, stayed by the Court of Law shall be subject to outcome of decision of such litigation. The one time spectrum charge shall be payable as per provisions in para (i) above of these guidelines.

n) If consequent to transfer/merger of licenses in a service area, the Resultant entity becomes a "Significant Market Power" (SMP), then the extant rules & regulations applicable to SMPs would also apply to the Resultant entity. *SMP in respect of access services is as defined in TRAI's "The Telecommunications Interconnect (Reference Interconnect Offer) Regulations, 2002 (2 of 2002)" as amended from time to time.*

3.4.3. The dispute resolution shall lie with Telecom Dispute Settlement and Appellate Tribunal as per TRAI Act 1997 as amended from time to time.

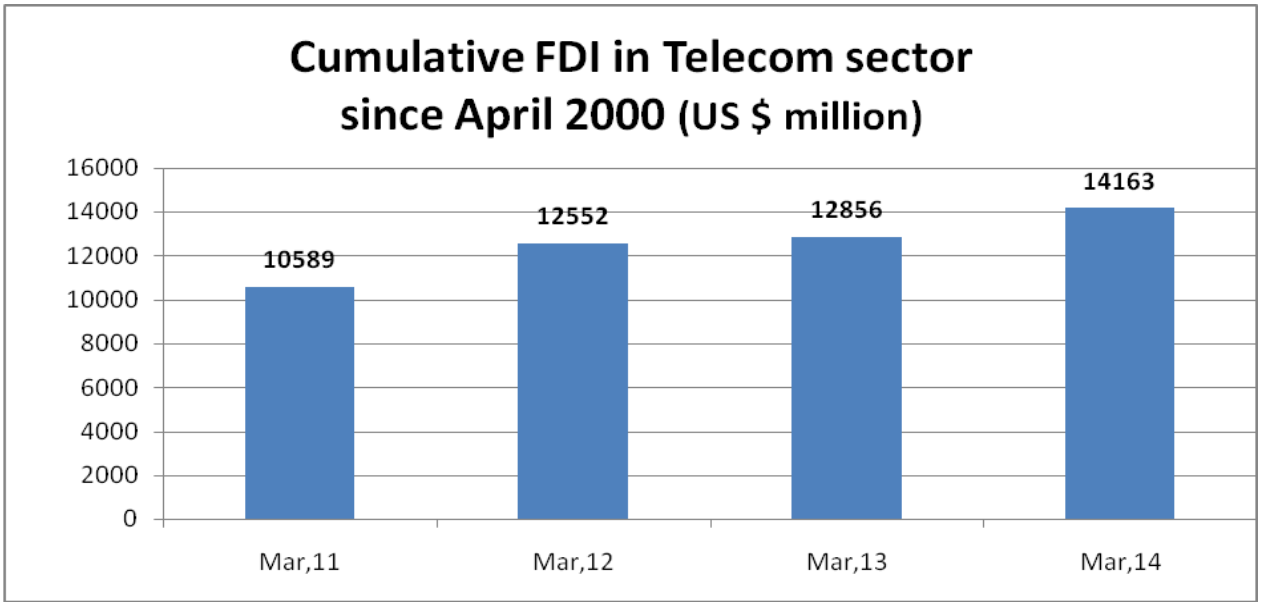
3.4.4. LICENSOR reserves the right to modify these guidelines or incorporate new guidelines considered necessary in the interest of national security, public interest and for proper conduct of telegraphs.

3.5 Foreign Direct Investment (FDI) in Telecom sector

Telecom Sector is considered to be one of the most attractive sectors for Foreign Direct Investment (FDI) in the country. To make telecom sector more investor friendly, the Government has raised Foreign Direct Investment (FDI) limit for all telecom services from 74% to 100%. The current FDI policy for the Telecom services, subject to observance of licensing and security conditions by licensee as well as investors as notified by the Department of Telecommunications (DoT) from time to time, is as under:

Sr. No.	Sector/Activity	FDI Cap/ Equity	Entry route
1.	Telecom Services (including Telecom Infrastructure Providers Category – I) All telecom services including Telecom Infrastructure Providers Category-I, viz. Basic, Cellular, Unified Access Services, Unified license(Access services),Unified License, National/ International Long Distance, Commercial V-Sat, Public Mobile Radio Trunked Services (PMRTS), Global Mobile Personal Communications Services (GMPCS), All types of ISP licences, Voice Mail/ Audiotex/UMS, Resale of IPLC, Mobile Number Portability services, Infrastructure Provider Category – I (providing dark fibre, right of way, duct space, tower) except Other Service Providers.	100 %	Automatic upto 49%. Beyond 49%, through FIPB route
2.	Other Service Providers (OSP) and Manufacture of Telecom Equipments	100%	Automatic

Actual Inflow of FDI in Telecom Sector from April 2000 to March 2014 is 14,163 US $ in millions. The Cumulative FDI data for last four years is as under:



(Source: DIPP)

3.6 Thrust areas of the Department under 12th Five Year Plan

The Twelfth Plan Programmes for the telecom sector are guided by the NTP-2012. The thrust of NTP 2012 is on raising the competitiveness of Indian telecom sector, to make it a world leader, while at the same time making available a variety of services on a single platform utilising the technological advancements taking place in the sector. Spectrum, which is an important input has been a limited and reusable resource. With the introduction of new technologies, high bandwidth applications and increasing user base, there will be a requirement of significant amount of additional spectrum.

3.6.1 Twelfth Plan Targets

- Provision of 1200 million connections by 2017
- Mobile access to all villages and increase rural teledensity to 70 per cent by 2017
- Broadband connection of 175 million by 2017
- Commissioning of National Optical Fibre Network (NOFN)
- Make available additional 300 MHz of spectrum for IMT services
- Making India a hub for telecom equipment manufacturing by incentivising domestic manufacturers with thrust on IPR, product development and commercialisation
- Provide preferential market access for indigenously manufactured products
- To increase domestic manufactured products in telecom network to the extent of 60 per cent with value addition of 45 per cent by 2017
- Adoption of green policy in Telecom and incentivise use of renewable energy sources
-

3.6.2 **DoT-USOF's Sanchar Shakti Scheme**:

The Department of Telecommunication under its Gender Responsive Budgeting Commitments, had decided to launch pilot projects aimed at facilitating Rural Women's Self Help Groups' (SHGs) access to ICT enabled services as an aid to their education, training employment opportunities, health and safety.

Accordingly USOF decided to initiate gender specific USOF subsidized pilot projects under the aegis of Sanchar Shakti scheme. The Sanchar Shakti pilot scheme for Mobile Value Added Services (VAS) provisioning envisages development of content/ information customized to the requirements of women SHG members engaged in diverse activities in rural areas across India. The scheme entails innovative application of technology in designing & delivering the VAS content so as to ensure its easier accessibility & effective assimilation among the targeted women beneficiaries.

Four pilot agreements have since been signed between USOF Administration and the service providers in Pune district (Maharashtra circle), Ajmer district (Rajasthan circle), Uttarakhand and Srikakulam, East Godavari & Vishakhapatnam districts (A.P. circle).

Further Agreements for extension of Sanchar Shakti to 3200 women beneficiaries each in Azamgarh district (UP East circle) and Saharanpur district (UP west circle) are under process.

The USOF subsidy disbursed for the Sanchar Shakti activity as on31.12.2014 is Rs. 66 lakhs.

3.6.3 Research & Development

International Cooperation Division With a view to promote R&D, IPR, Standardisation, Product development and manufacturing of telecom equipment and services including their exports, Government have facilitated setting up of following societies :

- Telecom Centres of Excellence, (TCOE) India in Public Private Partnership mode for R&D, IPR generation including product development
- Telecommunications Standards Development Society, India (TSDSI) for standardisation
- Telecom Equipment and Services Export Promotion Council (TEPC) for facilitating export of telecom equipments and services

The brief achivements of these societies are as under:

3.6.3.1 Telecom Centres of Excellence India (TCOEs)

Telecom Centres of Excellence India (TCOE India), a Public Private Partnership (PPP) initiative of Department of Telecommunications (DoT), Government of India, are established at 08 premier academic institutes of the country with the objective of creating an ecosystem for a sustained, high rate of growth of Telecom in the country.TCOEs created a platform for Govt., Industry & Academia to come togther and work in synergistic manner to position India as a global Telecom Leader in terms of Innovation, New Technologies, IPR Generation leading to global standards, Policy Advocacy and Entrepreneurship.

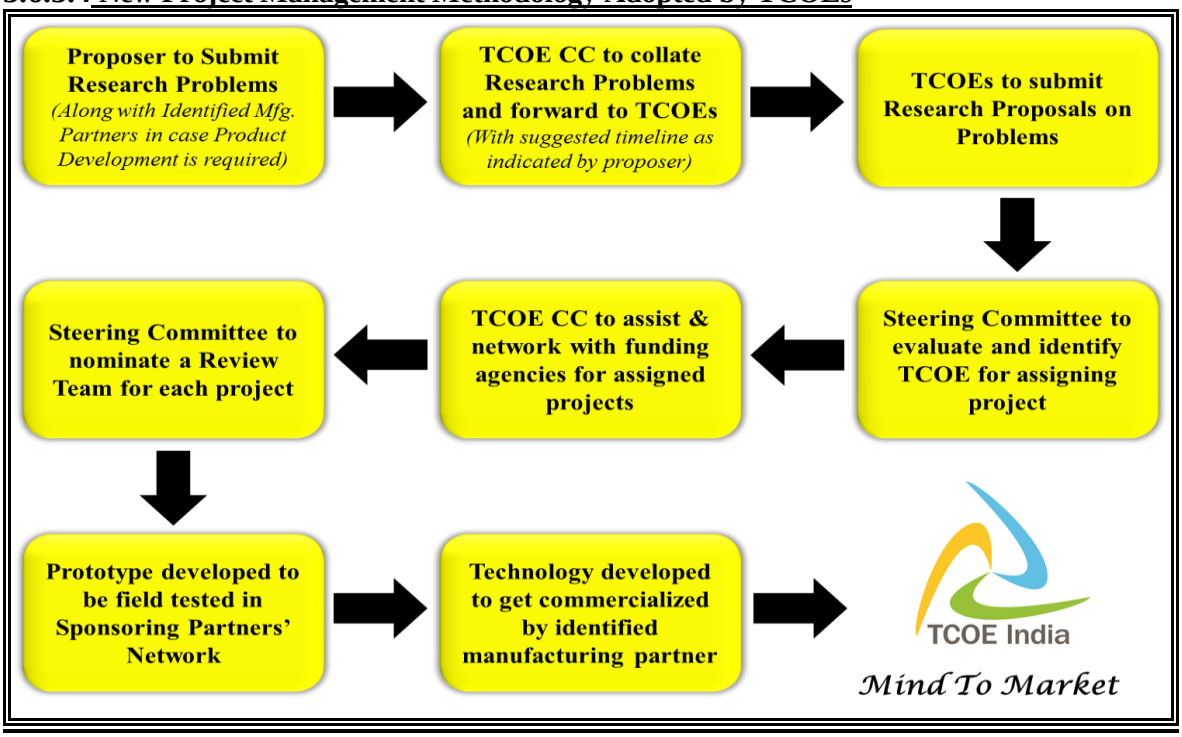
3.6.3.2 Objectives:

- Application oriented Telecom R &D and Innovation jointly with the Industry
- Capacity building through "Training the Trainers" & "Entrepreneurship Development"
- Think Tank activities for Policy Advocacy towards Governance & Regulation of Telecom Sector
- Influencing Global Standards to cater to Indian needs

3.6.3.3 Achievements:

1	**Proof- Of- Concept of different Technologies** approved by Sponsors	**40** ***(H/W= 7, Appln= 33)***	- Out of 89 Ongoing projects
2	**IPRs & Patents**	**14 + 20**	- Including 6 US Patents
3	**Research Papers in aid of Policy/Management Decisions**	**41**	- Published in TCOE & IIMA website
4	**Technology launched in Operator Network**	**05**	
	a) Digital Kisan Mandi	BSNL + IIT K	- launched in Haryana & Odisha
	b) Auto Customer Acquisition Form	RCom.+ IIT M	- Being Commercialised
	c) Mobile Social Networking Platform	TTL + IIT B	- launched in TTL's network
	d) Network Opex Optimization	TTL + IIT B	- 10-15% Opex Saving demonstrated
	e) Unlicensed Band Radio (UBR)	TTL + IIT B	- Low cost Wi-Fi + multiple usage
5	**Products being manufactured**	**02**	
	a) Variable Phase Power Plant for Rural BTS	Mrs. VMC + IITK	- 25% reduction in Genset running
	b) Unlicensed Band Radio (UBR)	Mrs. Primatel + IIT B	- Low Cost, High Perf., 1000 Links ops
6	**Simulators**	**02**	
	a) Powering Cellular Base Station b) Broadband Wireless Simulator	IIT M CEWiT+IITM+ IITKgp+IITB+ IITK	- For Power Management - For testing 4G, LTE Technologies
7	**IPv6 Consultancy & Training**	**IIT Kanpur**	- Undertaken at BSNL & MHA
8	**Entrepreneurship**	**04** *(IITM: 2, IITB: 2)*	-Panchsheel Research Pvt. Ltd. & DSP Works Ltd. incubated from IIT B in '13

3.6.3.4 New Project Management Methodology Adopted by TCOEs



3.7.1 Telecommunications Standards Development Society, India (TSDSI): is India's Telecommunication Standards Development Organization with an objective to develop promote and maintain standardised solutions for India-specific requirements. TSDSI intends to contribute its work to the global telecommunications standardisation process and also acts as a catalyst for the local development of design and manufacturing expertise in the sub-continent.

Department of Telecommunications (DoT) approved Bye-laws and Rules and Regulations of TSDSI in **October, 2013**.

TSDSI has been registered with the legal status of a society under Societies Registration Act 1860 on **7th January 2014** at New Delhi, India. It represents all stakeholders of Indian telecom sector, namely, Government, service providers, manufacturing companies, technical services companies R & D organizations and academic institutions on a common platform. TSDSI strives to follow the best practices of knowledge sharing, consultations and consensus building to make standards which address special needs of the Indian consumers and help equipment manufacturers and operators fulfil those needs in ways that are beneficial to both.

3.7.2 Cooperation Agreements signed with other Standard Development Organisations

- Association of Radio Industries and Businesses (**ARIB**) – Japan,
- Alliance for Telecommunications Industry Solutions (**ATIS**) – U.S,
- China Communications Standards Association (**CCSA**),
- European Telecommunications Standards Institute (**ETSI**),
- Telecommunications Technology Association (**TTA**) – Korea,
- Telecommunication Technology Committee (**TTC**) – Japan

3.7.3 International Participation – GSC, 3GPP and oneM2M

TSDSI has been accepted as the **11th member of Global Standards Collaboration (GSC)** during the 18th meeting of GSC held from **July 22-23, 2014** at Sophia Antipolis, France. TSDSI's membership was approved in record time indicating the importance the global community is according to India's SDO efforts.

TSDSI is accepted as the seventh partner member of 3GPP and has now received Type 1 membership of one M2M partnership.

3.8.1 Telecom Equipment & Services Export Promotion Council (TEPC)

Telecom Equipment & Services Export Promotion Council (TEPC) as a Council plays a critical role in furtherance of Telecom Exports from the Country and assists its member companies in easy facilitation of their respective exports. The Council caters to the complete Telecom Ecosystem including Telecom Hardware Manufacturers, Telecom Service Providers, Telecom Software Vendors and Consultants.

The export of telecom Equipment (excluding mobile phones) has consistently increased in last three years. It has increased by 26% to reach Rs.7736 crore in 2013-14 from Rs.6148 crore in 2011-12. The figures included the telecom parts, apparatus and cables. Telecom Export figures are given in the following table;

Sr. No.	**Item Description**	**2011-12**	**2012-13**	**2013-14**	**2014-15 (Apr-Sep)**
		(Rs. Crore)			
1	Mobile Phones	14,052	14,870	11,918	1,096
2	Parts	3,792	3,476	3,768	1,551
3	Telecom Apparatus	1,438	1,783	2,866	987
4	Telecom Cables	918	946	1,102	637
Total Telecom Figures		**20,200**	**21,075**	**19,654**	**4,271**

3.8.2 Achievements of TEPC during 2014-15

- Inclusion of telecom products under 5% duty credit scrip of Focus Product Scheme (FPS) Public Notice No. 53 (RE 2013)/2009-14 dated 27th February 2014
- TEPC facilitated exporters subsidised participation in the following international events:-
  i. CeBIT 2014, Australia: Sydney Australia (5-7 May 14)
  ii. Israel Innovation Conference 2014,Israel (20-22 May 14)
  iii. CommunicAsia 2014: Singapore (17-20 June 14)
  iv. East Africacom Exhibition, Nairobi, Kenya (8-9 Sept. 14)
  v. K.L. Converges : Malaysia (17-19 September 14)
  vi. GITEX 2014:Dubai (12-16 Oct 14)
  vii. FutureCom 2014: Brazil (13-16 Oct 14)
  viii. AfricaCom 2014: Cape Town, South Africa (11-13 Nov. 14)

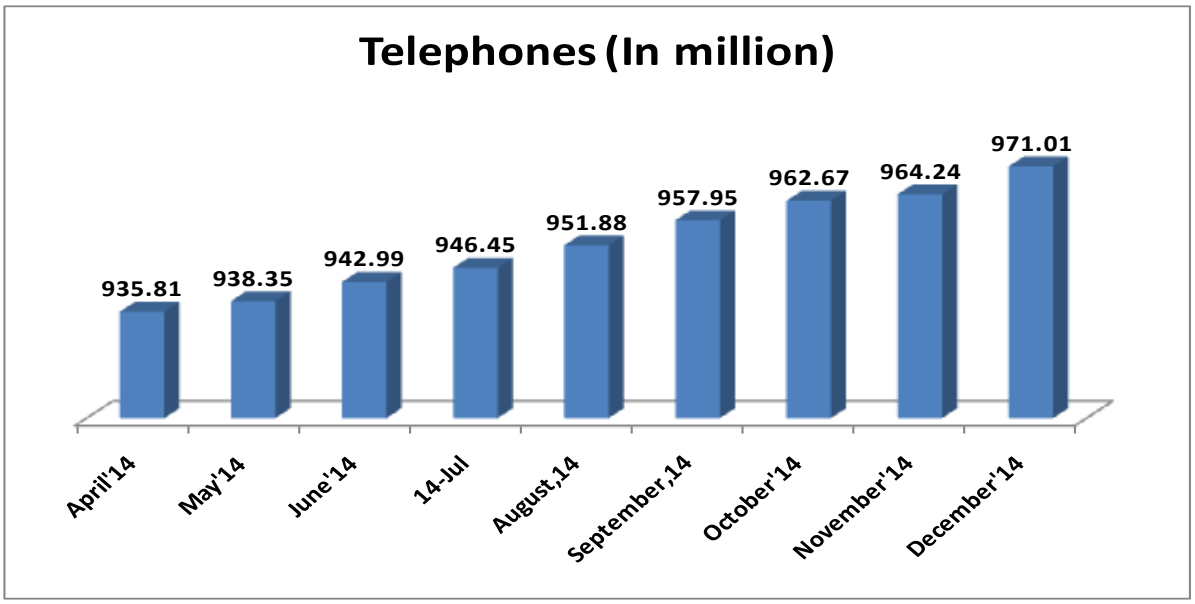
Chapter – IV

Review of Performance

A Department of Telecommunication

4.1 Overview of the Telecom Sector

The Indian telecom sector has registered a phenomenal growth during the past few years and has become the second largest telephone network in the world, next only to China. A series of reform measures by the Government, technological innovations in wireless technology and active participation by private sector played an important role in the exponential growth of telecom sector in the country.



4.1.1 Network Expansion

The number of telephones reached the peak level of 965.52 million in June 2012 and thereafter there had been continuous decline till February, 2013, when the number reached 892.02 million. Thereafter, once again telecom sector experienced an upward trend. The number of telephones, which were 933.02 million at the beginning of the current financial year have increased to 971.01 million by the end of December 2014. The decline in telecom user base after June 2012 was been primarily due to the removal of inactive mobile telephone connections by the service providers. The graph above indicates the number of telephone connections at the end of each month during the year 2014-15.

The number of rural telephone has increased from 377.78 million to 398.73 million during the period March 2014 to December 2014. The urban telephones also increased from 555.23 million to 572.28 million during the same period.

4.1.2 Teledensity

Tele-density, which shows the number of telephones per 100 population, is an important indicator of telecom penetration in the country. Tele-density, which was 75.23 per cent at the beginning of the financial year 2014-15, increased to 77.59 per cent by the end of December 2014. There has been improvement in the rural tele-density during 2014-15 and it increased from 44.01 per cent at the beginning of the financial year to 46.14 per cent at the end of December, 2014. However, the urban tele-density increased from 145.46 per cent to 147.75 per cent during this period. The month-wise tele-density from April, 2014 to December, 2014 is shown below:

Teledensity (%age)			
At the end of	Rural	Urban	Overall
April'14	44.18	145.49	**75.38**
May'14	44.45	145.24	**75.51**
June'14	44.55	145.93	**75.81**
14-Jul	44.60	146.40	**76.01**
August,14	44.72	147.23	**76.37**
September,14	45.01	147.84	**76.78**
October'14	45.44	147.79	**77.08**
November'14	45.80	147.07	**77.12**
December'14	46.14	147.75	**77.59**

Among the Service areas, Tamil Nadu (116.96%) has the highest tele-density followed by Himachal Pradesh (111.78%), Punjab (105.13%), Karnataka (96.35%) and Kerala (95.21%). On the other hand, the service areas such as Bihar (48.28 per cent), Assam (51.90 per cent), Uttar Pradesh (58.65 per cent), Madhya Pradesh (58.77 per cent) and West Bengal (58.84 per cent) have comparatively low tele-density. Among the three metros, Delhi Service Area tops in tele-density with 235.63% tele-density, followed by Kolkata (146.86%) and Mumbai (145.86%).

4.1.3 Composition of Telephones

A. Public vs. Private

An analysis of operator-wise number of telephones reveals that PSUs (BSNL & MTNL) still have a large share of nearly 75.76 per cent in the wire line segment by the end of December 2014. Private operators, on the other hand, have 89.15 per cent share in the wireless segment. Overall, Bharti Group with 22.72 per cent of the total telephones, both landlines and mobiles taken together, has the largest share followed by Vodafone Group (18.41 per cent), Idea (15.50 per cent), Reliance (11.07 per cent) and two PSUs (10.85 per cent).

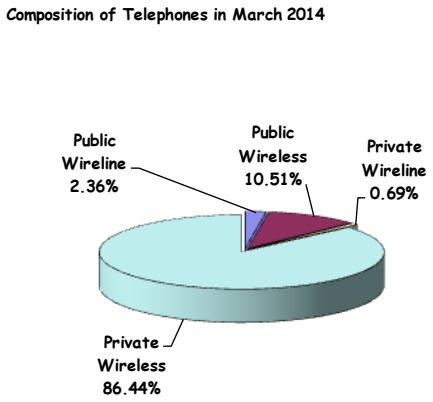
The share of private sector, in terms of number of subscribers, increased from 87.13% to 89.15% during the period from March, 2014 to December, 2014. On the other hand, the share of public sector declined from 12.87 per cent to 10.85 per cent during this period.

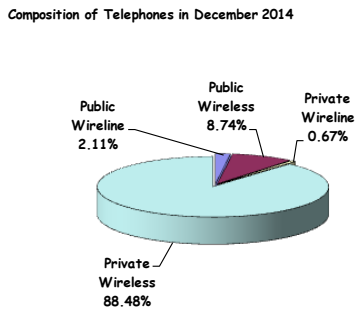
B. Wire line vs. Wireless

As far as the technology is concerned, the preference for use of wireless telephony continues. The share of wireless telephones increased from 96.95 per cent at the beginning of the

financial year to 97.22 per cent by the end of December, 2014. On the other hand, the share of wire line telephones declined marginally from 3.05 per cent to 2.78 per cent during the same period.

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





The following table shows the performance of telecom sector at the end of March 2014 and December 2014.

Items	Units	At the end of March	
		March, 2014	**December, 2014**
Total telephones	**(In million)**	**933.05**	**971.01**
Landline telephones		28.5	27.00
Wireless telephones		904.52	944.01
Rural telephones		**377.78**	**398.73**
Urban telephones		555.23	572.27
Telephones of Private Sector (In million & %age Share)		**812.96**	**865.68**
	(%age Share)	**87.13%**	**89.15%**
Telephones of Public Sector (In million & %age Share)	**(In million)**	120.05	105.32
	(%age Share)	12.87%	10.85%
Rural tele-density	**(%age)**	**44.01**	**46.14**
Urban tele-density		145.46	147.75
Overall tele-density		**75.23**	**77.59**

4.1.4 Rural Telephony

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.

4.1.5 Internet and Broadband Services

As per guidelines for grant of Unified License dated 19.08.2013, the internet services have been included in the Unified License. Accordingly, with effect from 19.08.2013, Unified License with ISP authorization is granted for provision of internet services.

As on 31.12.2014, there are 325 Licensees for Internet Services which include 84 Category “A” Licensees, 135 Category “B” Licensees and 106 Category “C” Licensees. 31.12.2014.

As on 31.12.2014, 118 Unified Licenses have been issued two Licenses have been issued with ISP authorization for various categories. This includes 9 category A ISP authorization, 99 category B ISP authorizations, 38 category C ISP authorization.

As on 30.06.2014 there were about 259.14 million internet subscriber including 68.83 million broadband subscribers.

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(The subscriber figures are as per TRAI performance Indicator Report for the Quarter ending September 2014)

4.1.6 Very Small Aperture Terminal (VSAT) Services

VSAT service 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, 27 captive CUG VSAT licenses are effective on 31.12.2014.

(ii) Commercial CUG VSAT license wherein the licensee company can provide CUG VSAT service to a number of CUGs on commercial basis. As on 31.12.2014 there are 9 licenses for commercial CUG VSAT services. In addition to above 9 Licences, 4 all India authorization for VSAT CUG services under Unified Licences have also been issued after introduction of Unified licensing regime.

(iii) DS division also issues permission for Captive Networks to organization where in the permission holder can setup a captive network for its internal use. For such permissions are working as on 31.12.2014.

4.1.7 Disaster Management

After natural calamity in Uttarakhand in June 2013, the top most priority was given to restoration of mobile connectivity in the affected areas of Uttarakhand and most of the services were restored promptly. The status of telecom facilities and particularly that of BTSs in the affected areas was monitored on daily basis.

In addition, various other measures were taken to help affected peoples and their relatives. Instructions were issued to telecom operators to open helpline numbers and keep them functional. They were also instructed to provide on request last location of the missing persons to their relatives/friends.

4.1.8 Telecom Equipment Manufacturing

With the advent of next-generation technologies and operators looking to roll out 3G and broadband wireless access services, the demand for telecom equipment has increased rapidly. In an attempt to capitalize on this opportunity, the government and policy makers are focusing on developing the domestic manufacturing industry.

With a view to increase domestic telecom equipment manufacturing industry and making India a manufacturing hub, the National Telecom Policy-2012 (NTP 2012), inter-alia, has following objectives to promote R&D, Manufacturing and Standardization of Telecommunication Equipment:

- Promote innovation, indigenous R&D and manufacturing to serve domestic and global markets, by increasing skills and competencies.
- Create a corpus to promote indigenous R&D, IPR creation, entrepreneurship, manufacturing, commercialisation and deployment of state-of-the-art telecom products and services during the 12th five year plan period.
- Promote the ecosystem for design, Research and Development, IPR creation, testing, standardization and manufacturing i.e. complete value chain for domestic production of telecommunication equipment to meet Indian telecom sector demand to the extent of 60% and 80% with a minimum value addition of 45% and 65% by the year 2017 and 2020 respectively.
- Provide preference to domestically manufactured telecommunication products, in procurement of those telecommunication products which have security implications for the country and in Government procurement for its own use, consistent with our World Trade Organization (WTO) commitments.
- The Government has taken a number of initiatives for promoting the domestic manufacturing ecosystem in the country with Electronic Manufacturing Cluster Scheme, Modified Special Incentive Scheme and preference to domestically manufactured telecom equipment in Government procurement.

The Government has laid down the Policy for providing preference to domestically manufactured electronic products (including telecom equipment) in Government procurement. In furtherance of the above notified policy, Department of Telecommunications has notified telecom products to be procured by Government vide notification No. 18-07/2012-IP dated 5th October 2012. The notification provides 50% to 100% preferential market access for domestically manufactured telecom equipment with minimum value addition of 25% to 65%.

The year 2014-2015 was marked with several important activities and visits in the sphere of International Relations for DoT.
There were significant activities in multilateral cooperation with Intergovernmental Organizations such as ITU, APT, and ITSOetc. Indian high level delegations visited foreign countries in strengthening the bilateral relations and technological cooperation and several foreign dignitaries also visited India reflecting the growing prominence of India. The activities on International Relations front have been categorized as below.

1. **Activities on Bilateral Cooperation**
2. **Activities on Multilateral Cooperation and Conferences of Intergovernmental and International Organizations**
3. **Study Group meetings**
4. **Capacity building programs with ITU / APT and ITU-T study group meetings**
5. **Events - International Exhibitions and Promotion events**

4.2.1 Bilateral Cooperation

I. Indian Delegations visiting abroad

Israel: Joint Secretary (Admin) and Dir (IP) participated theFirst Israel Innovation MIXII Conference 2014, Tel Aviv Israel from 20-22 May 2014.

II. Foreign delegations visited India

Japanese Ministerial delegations visited India. Shri Yasuo Sakamoto, Vice Minister for Internal Affairs and Communications, Japan met Hon'ble MoC&IT on December 3, 2014 at NewDelhi. Both leaders discussed various issues for enhancing cooperation between two countries in the field of Telecommunications and IT in the years to come. Four Joint Working Groups have been planned in the areas of Green ICTCyber Security Cooperation, ICT for Disaster Management (ICT4DM), ICT Application for Social and Economic Challenges.

4.2.2. Multilateral Cooperation:

Brunei: A high level delegation led by Shri Ravi Shankar Prasad, Hon'ble MoC&ITparticipated in Asia-Pacific Telecommunity (APT) Ministerial Conference and Preparatory Meetings during 8-11th September, 2014. The Hon'ble MoC& IT made an important address in the session on Safe and Secure Society through ICT. He also Chaired the session on Enabling a Sustainable ICT Ecosystem for an Innovative Economy during the ministerial conference.

Preparatory meetings for ITU Plenipotentiary (PP-14) conference & Plenipotentiary Conference:

DoT delegation participated in the APT's 3rd and 4th PP preparatory meetings held at Malaysia and Bangkok. The preparatory process got culminated in the final conference at Busan during October 2014.

The Plenipotentiary Conference is the key event at which ITU Member States decide on the future role of the organization, thereby determining the organization's ability to influence and affect the development of information and communication technologies (ICTs) worldwide. The Plenipotentiary Conference is the top policy-making body of the ITU, held once every four years. The delegation was led by Hon'ble MoC& IT, Secretary Telecom and DDG (IR). The DDG (IR) made a contribution on role of ITU in realizing secure Information Society during the PP conference. The conference acknowledged the relevance of the issues raised.

India as ITU Governing Council Member:

India won as a member of the ITU Governing Council for the period 2015-18. India also hosted Indian night for the International delegations in the contest of India contesting for ITU elections.

ITU World Telecom Development Conference (WTDC-2014):

A high level delegation led by Secretary (T), Member (T), Member (F), Sr. DDG TERM participated in the ITU WTDC conference at Dubai during 29th March 07th April 2014. The WTDC is a summit level conference of ITU-D sector. There were several contributions from India on ITU Strategic plan and other relevant areas.

Visit of Director (TSB) ITU and Elect DSG, ITU:

Director Telecommunication Standardization Bureau (TSB), ITU, Mr Malcolm Johnson, was on his official mission to India during 9-10 December 14. He had meetings with Hon'bleMoC& IT and secretary (Telecom) with the senior officers of DoT. He also met industry leaders.

ETSI: Sr. DDG (TEC) and DDG (IP) participated in the 18th Global standards collaboration meeting at France from 21-23 July 2014.

9th IGF (Internet Governance Forum): DDG (NT) participated in the 9th Internet Governance Forum at Istanbul from 2-5 September 2014.

36thAssembly of Parties meeting of International Telecommunication Satellite Organization (ITSO) - A delegation led by Member (T) participated in this high level event at Washington, USA in May 2014. India has been elected as a member of ITSO Advisory Council.

TDAG (Telecom Development Advisory Group) Meeting: DDG (IR) and Dir (IR-II) participated in the TDAG meeting from 29 September to 01 October, 2014 at ITU HQ, Geneva. India is a member of TDAG bureau.

4.2.3 Study Group (SG) meetings:

The ITU study group meetings are aimed to build capacity and contribute for harmonizing standards, share best practices and learning's for ICT growth. The issues discussed in these meetings are important for India as an emerging country to develop the ICT eco system and take challenges and issues to the international discussion forums.

India hosting the ITU-T SG 5 meeting at Kochi in December 2014:

The DoT hosted the important ITU-T SG 5 meeting dealing with Environment and Climate Change at Kochi during 8-19th December 2014. The Secretary (T) inaugurated the event and the ITU symposium on 14th December at Kochi. The event was attended by several industry members and DoT officers and it provided an opportunity for introduction to ITU study group meetings in future.

Further, the DoT delegations participated in the following ITU study meetings in different sectors:

i. ITU-T study group 5 meeting at Geneva July 2014
ii. NIST (National institute of Standards and Technology) workshop: DDG (Security), DDG (TTSC) and DDG (NGN) participated in this workshop from 15-19 September 2014 at USA

4.2.4 ITU-T study group 15 meeting at Geneva November 2014

4.2.5 Trainings:

The DoT officers participated in the capacity building programme abroad organized by the International organisation such as ITU, APT in the following areas:

i. Big Data in Telecom and Cloud Services
ii. Latest Technological Trend, Planning Methods and Standardization to Promote Broadband Networks in the Asia-Pacific Region
iii. Networks, Technologies and Infrastructures for Transport, Access and Home
iv. Broadband Wireless Network Integration and Transition to 5G
v. Next Generation Mobile Telecommunications Technology and Its Applications
vi. Enabling Frameworks for ICT Development
vii. Smart City
viii. Practical Technologies and their Implementation of Small Scale Telecommunications for the Rural Area (with Technical Practice)
ix. Mobile Telecommunications Technologies and Services
x. LTE and Application

4.2.6 Events:

Senior officers from DoT participated in the following important events abroad in the context of Investment Promotion, Opportunities in India in ICT space in terms of technology and Products.

I. CeBIT 2014 Exhibition at Sydney, Australia in May 2014
II. 5th International Communication and Information Technology Exhibition and Conference, CommunicAsia 2014 at Singapore in June 2014
III. KL Converge Event at Malaysia in September, 2014
IV. Internet Governance Forum at Turkey in September 2014
V. East Africacom 2014 at Kenya in September 2014
VI. Africacom- 2014 at South Africa in November 2014

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 2013 to March 2014 about 15 GRs/ IRs were prepared, 13 GRs/IRs revised.

(ii) TEC is responsible for preparation of Test Schedule during the period April to January 2013; about 52 Test Schedules were prepared. The review of the performance for the year 2013-14 and for the year 2014-15 is placed at **Annexure-L**.

4.4 Wireless Planning and Co-ordination

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

4.4.1 Spectrum Management

Spectrum Management is the combination of administrative and technical procedures necessary to ensure the efficient operation of radio communication services. Spectrum management is carried out in line with International Frequency Allocation Table of Radio Regulation of International Telecommunication Union (ITU), National Frequency Allocation Plan (NFAP) and also ensuring Electromagnetic Interference (EMI)/ Electromagnetic Compatibility (EMC). The details are given below:

- Cellular Mobile Service using CDMA technology uses frequencies in 800 MHz frequency band (869-889 MHz paired with 824-844 MHz).
- Cellular Mobile Service using GSM technology uses frequencies in 900 MHz frequency band (890-915 MHz paired with 935-960 MHz) and 1800 MHz band (1710-1785 paired with 1805 -1880 MHz).
- Mobile Services using WCDMA (3G) technology use 2.1 GHz band (1920-1980 MHz paired with 2110-2170 MHz).
- BWA service uses frequencies in the frequency band 2.3 -2.4 GHz and 2.5 -2.69 GHz.
- Point to point fixed Microwave Access for these networks uses frequency bands 15/18/21/23 GHz as appropriate for establishing compatibility of electromagnetic radiation to ensure interference free operation of all such networks with other available networks.
- Backbone Microwave Access for these networks uses 6/7 GHz frequency bands.
- One of the BWA service providers has launched BWA services in Kolkata and Bangalore service area.
- Internet Service Provider (ISP) service uses frequency bands 2.7-2.9 GHz and 3.3-3.4 GHz.
- Frequencies are also assigned for Captive usages to Govt., PSUs and Private entities in different frequency bands.

- Spectrum in the 2G bands of 800 MHz and 1800 MHz were put to auction. In the auction conducted, no bidding interest was expressed for spectrum in the 800 MHz band. The auction for spectrum in the 1800 MHz which commenced on 12.11.2012, concluded on 14.11.2012 with each participant that bid for spectrum securing the same. No bids were received in four service areas namely Delhi, Mumbai, Karnataka and Rajasthan in the 1800 MHz band. The total value of blocks allocated in the auction of 1800 MHz band was ` 9407.64 crore.
- Orders for levying one time spectrum charge on spectrum holding by existing GSM operators beyond 6.2 MHz with effect from 01.07.2008 and beyond 4.4 MHz from 01.01.2013 have been issued.
- Auction of spectrum in 1800 MHz band in 4 service areas i.e Delhi, Mumbai, Karnataka and Rajasthan where no bids were received in the last auction held in November, 2012, auction of spectrum in 900 MHz band in three Metro service area i.e. Delhi, Mumbai and Kolkata and auction of spectrum in 800 MHz band in 21 service areas are scheduled to be held in March, 2013.
- SACFA clearances are granted for fixed wireless stations ensuring aviation safety, interference free operations and line of sight obstruction.
- Delicensing of frequency band 433-434 MHz: Based on the requests received from various applicants, a Gazette Notification G.S.R.680 (E) dated 12th September, 2012 for delicensing frequency band 433-434 MHz has been issued for the usage of low power devices or equipments for indoor applications in the 433 to 434 MHz frequency range, on non-interference, non-protection and shared (non exclusive) basis.

4.4.2 International 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.

Satellite coordination with other Administrations

- Operator level coordination meeting took place with **China, Malaysia and Japan** to resolve technical issues.

- Coordiantion of INSAT-MET series of satellite network was taken with **France, USA, Saudi Arbia, Australia, Canada**, **Russia and Germany.**

- INSAT network at 74E is coordinated with **Israel.**

- INSAT-KU10 (55E) has been coordinated with **Turkey.**

- Coordination of INSAT-TTC series of satellite networks was undertaken with Holland, Malaysia, Germany, Cyprus, UK Tonga, UAE, Turkey and Luxembourg Administration.

- Coordination of MMI satellite networks was undertaken with USA, France, Germany, Australia, Belarus, Canada, Iran, Japan, Korea, Pakistan, Russia and Spain.

- Coordination of INSAT-NAVR (83) E Satellite Network has been taken up with the Administration of Russia, Thailand, Turkey, China, Cyprus, France, Israel, Malaysia, Norway and Papua New Guinea.

- Coordination of INSAT-KAUHF(74) E Satellite Network has been taken up with the Administration of U.K. Russia, Italy, Germany, Belgium, Austrlia and USA.

- Coordination of INSAT-KAUHF series of Satellite Network at 74E, 83E and 93.5E have been taken up with the Administration of Luxembourg, Sweden and Turkey.

- Coordination of INSAT-EXK82.5E E Satellite Network has been taken up with the Administration of Jordon

- Coordination of INSAT-NAVR series of satellite network has been taken up with the Administration of Cote' d Ivory, Cyprus, China, Egypt, France, Holland, Israel, Korea, Lao, Luxembourg, Malaysia, Nigeria, PNG, Russia, Singapore, Turkey, Tonga, UK, Saudi Arbia and UAE.

- Coordination with Administration of Indonesia has been taken.

- Coordination with Administration France, Russia, USA have been undertaken for INSAT-KU11 series of satellite network.

4.4.3 Coordination with ITU

Notifications:-

Frequency notices for registration requests INSAT-TTC(55)E, INSAT-TTC(74)E, and INSAT-TTC(93.5)E satellite networks has been forwarded to BR for publication in BR IFIC of Radiocommunication Bureau and the same were published by BR in concerned special section of BR IFIC.

Frequency notices for registration requests for INSAT-NAV-A-GS (NGSO) satellite networks has been forwarded to BR for publication in BR IFIC of Radiocommunication Bureau and the same were published by BR in concerned special section of BR IFIC.

Frequency notices for registration requests for TWSAT (NGSO), INSAT-NAV(55)(55E), Mars Mission of India(MMI), INSAT-G5(74), INSAT-MET(82)E, INSAT-KU11(74)E and INSAT-KAUHF(74) satellite networks has been forwarded to BR for publication in BR IFIC of Radiocommunication Bureau.

Administrative Due-diligence:-

Administrative Due-diligence i.r.o. satellite networks INSAT-TTC(55)E, INSAT-TTC(74)E, INSAT-TTC(93.5)E, INSAT-TTC82E, INSAT-MET(82)E, INSAT-G5(74), INSAT-KU11(74)E and INSAT-NAV(55) have been forwarded to ITU for publication in

BR IFIC of Radiocommunication Bureau and the same were published by BR in concerned special section of BR IFIC.

Co-ordination Request:-

CR/C in respect of INSAT-NAVR (83) was published in BR IFIC 2746.

CR/C coordination request i.r.o. INSAT-NAVR series of satellite network at location 32.5E, 83E, 120.5E, 121.5E, 123.5E, 126.5E, 127.5E, 129.5E were submitted to ITU.

CR/C coordination request i.r.o. INSAT-KU12 (63) E (63E), INSAT-NAV (93.5) were submitted to ITU.

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Advanced Publication Information:

Advanced Publication Information MOD-API i.r.o. INSAT-NAVR series and MMI (NGSO) satellite network has been sent to BR for publication in IFIC and the same were published by BR in concerned special section of BR IFIC.

Advanced Publication Information of MMI (NGSO), INSAT-KA-48E, INSAT-KA-55E, INSAT-KA-61E, INSAT-KA-66E, INSAT-KA (74), IND-SATS-48E and INSAT-KA-107.5E satellite network has been sent to BR for publication in IFIC and the same were published by BR in concerned special section of BR IFIC.

Recording of assignment of Earth station associated to INSAT-1C and INSAT-ID in MIFR replacing space station INSAT2 (93.5) and INSAT2 (83) satellite networks.

BSS Plan as per Appendix-AP30/30A:- BSS Plan modification and associated feeder links i.r.o. INSAT-EXC (48E), INSAT-EXC (82E), INSAT-EXC (83E) and INSAT-EXC (55) E were submitted to BR

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

Advanced Publication Information (**API/s)** published in BR IFIC in respect of satellite networks of **Canada, Ukrain, France, Germany, Indonesia, China, Japan, Azerbaijan, Israel, Vietnam, Lao, Spain, Russia, Belarus, United Kingdom, Cyprus, Pakistan, Kazakhstan, Mangolia, Norway, Slovenia, UAE and Saudi Arabia** Administrations were objected in view of existing and planned INSAT satellite networks.

Coordination requests (CR/Cs):- Frequency assignments published in BR IFIC in respect of satellite networks of Armenia, **Russia, UK, Cyprus, Australia, Korea, Turkey, Japan, PNG, Luxembourg, Indonesia, France, China, USA, UAE, Israel, Azerbaijan, Kazakhstan, Vietnam, Belarus, Thailand, Germany, Holland, Lao, Spain, Qatar, Ukrain and Saudi Arabia Administrations** were objected in view of existing and planned INSAT satellite networks.

Frequency notices for registration (Part I-S):- Frequency assignments published in BR IFIC in respect of satellite networks of **Spain, Thailand, Saudi Arabia, Russia, Korea,**

Pakistan, Japan, Israel, Morocco, Sweden, USA, Malaysia, China, Indonesia, Thailand, France, Turkey, U.K. Monaco and Australia Administrations were objected in view of existing and planned INSAT satellite networks.

FSS Plan as per Appendix-AP30B:- Frequency assignments in respect of satellite networks of **PNG, France, Sweden, Holland, Malaysia, Spain and Armenia** Administrations were objected in view of existing and planned INSAT satellite networks.

BSS Plan as per Appendix-30/30A:- Frequency assignments in respect of satellite networks of **Israel, PNG, Russia, Bangladesh, Morocco, Holland, UAE, France, Malasia and Turkey** Administration were objected in view of existing and planned INSAT satellite networks

4.4.4. Conferences

National Preparation, participation and follow-up action for various international and regional conferences under aegis of International Telecommunication Union (ITU) and Asia-Pacific Tele-community (APT) were undertaken to protect national interests especially in the context of spectrum management and radio communication related matters

World Radiocommunication Conference (WRC-15)

National Preparatory Committee has been constituted for WRC-15 to coordinate and harmonize the view of stakeholders to finalize national viewpoints on various agenda items of WRC-15.

4.4.5. PROJECT IMPLEMENTATION

The project titled "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 spectrum management process more transparent, effective and efficient.

(i) <u>Actual Physical Performance in 2013-14</u>

1. Arbitration Tribunal for settlement of disputes relating to NRSMMS Project between M/s HFCL, India and WPC Wing, Department of Telecom, Ministry of Communications & IT has been setup. The Arbitral Tribunal passed the Order during 7th sitting stating that Arbitral proceedings shall continue in accordance with law. The Arbitral Tribunal intimated the schedule for further proceedings. The department has filed the Statement of Claim on 22.8.2013. The Arbitral Tribunal conducted its 8th sitting in March 2014.

2. Annual Maintenance Contract for the ASMS Software and Hardware has been awarded to National Informatics Centre (NIC).

3. The tender has been issued for replacement of batteries of UPS installed for ASMS Server.

4. Maintenance work of MMS Vehicles and Repair of Equipments(e.g. 15 nos. of Spectrum Analyzers and 4 nos. of EB 200 Receivers) have been carried out.

5. Redesigning of WPC website as per Guidelines for Indian Government Website (GIGW) by NIC is under progress.

Achievements of WPC Wing

Financial Progress:

BE 2013-14: Rs. 1.5 crores
RE 2013-14: Rs. 2.9 crores
Expenditure: Rs. 1.44 crores

(ii) Performance in the first 9 months of the year 2014-15

Arbitration Tribunal for settlement of disputes relating to NRSMMS Project between M/s HFCL, India and WPC Wing, Department of Telecom, Ministry of Communications & IT has been setup. The Arbitral Tribunal has completed its 12 sittings. The Arbitral Tribunal in its order dated 27.8.2014 directed to submit evidence in Chief and Statement regarding release of Indemnity Bond and Trust Receipt. Additional Solicitor General(ASG) has been appointed for this case. The Arbitral Tribunal in its last proceedings dated 08.11.2014 considered the submissions made on behalf of the parties relating to the return of the Indemnity bond and Trust Receipt. As per order dated 08.11.2014, the tribunal is of the opinion that two documents should be returned to the Respondent without prejudice to the rights of the parties. The next date of sitting is17.1.2015.The case of nomination of two advocates to assist ASG is under process.

2 Annual Maintenance Contract for the ASMS Software and Hardware has already been awarded to National Informatics Centre (NIC). Two new servers have been procured by NIC for the WPC Wing. Two new UPS for these new servers have also been procured on DGSD Rate Contract in Nov.2014. The batteries of UPS installed for ASMS Server room have been procured.

3. Maintenance work of MMS Vehicle of WMS ,Thiruvananthapuram and Repair of equipments (e.g. 2 nos. of Spectrum Analyzers of WMS Dibrugarh and Ahemdabad and 3 nos. of EB 200 Receivers of IMS Chennai, WMS Goa and Dibrugarh) have been carried out.

4. Redesigning of WPC website as per Guidelines for Indian Government Website (GIGW) by NIC is in final stage of its completion.

5 The case of AMC of all 21 Spectrum Analyzers procured under World Bank Project and thereafter repaired through M/s Agilent Technologies (Now M/s Keysight Technologies) will be taken up with WPF for the financial concurrence.

Financial Progress:

BE 2014-15: Rs. 2.4 crores
RE 2014-15: Rs. 1.4 crores
Expenditure: Rs. 0.27 crores

(iii) **Target performance during 2015-16:** Information in prescribed profarma is attached at Annexure I.

(a) Follow up of Arbitration
(b) Maintenance of facilities installed under NRSMMS project
(c) Making spill over payments, to the Contractors as decided by Arbitrator
(d) Updation/addition of functionality/workflow of various software packages & hardware items to meet new upcoming requirements.

(iv). Details of mechanism put in place to monitor physical and financial progress:

A separate unit is working to monitor the maintenance of the facilities installed under the project and further progress of the project. The project is also reviewed by the Wireless Adviser regularly

4.5 Wireless Monitoring Organisation

Wireless Monitoring Organization continues to ensure interference-free wireless services in the increasingly crowded radio environment besides providing vital technical data for the introduction of new services such as 3G, BWA etc. to WPC wing

4.5.1 Radio Monitoring — a regulatory and treaty requirement.

Radio monitoring service, a regulatory and treaty requirement, is carried out by the Wireless Monitoring Organisation of the Wireless Planning & Co-ordination Wing (WPC Wing), Ministry of Communications and IT, for the Government of India. It is essentially technical in nature and its broad objectives are derived from the international treaty document — *Radio Regulations* of the *International Telecommunication Union*.

4.5.2 Major functions of Wireless Monitoring Organisation (WMO)

The major functions of the WMO are as under:

- Resolution of the harmful interference;
- Monitoring for identification of frequency sub-bands for introduction of new services and/or for additional allocation to existing services;
- Monitoring for spectrum recovery — unused/ under-used frequency authorizations;
- Monitoring for ensuring adherence to licensing conditions;
- Monitoring / measurements for sharing studies;
- Assistance to domestic wireless users;
- Assistance to foreign administrations;
- Participation in special monitoring campaigns of the International Telecommunication Union;
- Measurements on radio emissions (intentional & non-intentional) for the possible introduction of new radio communication standards, and also for studying the EMC compatibility of the proposed new installations;
- Inspection of licensed installations; and
- Monitoring of space emissions to protect authorized satellite transmissions.

4.5.3 Challenges before WMO

- The increasing dependence of the society (the Government and the public alike) on the wireless communications demands WMO to ensure interference free radio communication environment. Therefore, WMO's primary focus, at present, is on public mobile radio communication services, public broadcasting services and safety-of-life services. WMO is earnestly gearing up its resources — manpower and machine-power — 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 society as a whole. 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 services and for the 3G services. 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. Beside the service-aspect of radio monitoring, WMO has to ensure the quality of the spectrum.

- After having completed all the formalities, six new Wireless Monitoring Stations have been established at Bhubaneswar, Dehradun, Lucknow, Patna, Raipur & Vijayawada under 11th Five Year Plan (2007-12). One technical staff has been posted at each of six new monitoring stations to procure the necessary facilities for running the office. 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 finalizing tender document after the necessary approval by competent authority for the procurement "Six Vehicle mounted Monitoring Terminals with Portable Monitoring equipments and network analysis and coverage measurement equipments". The expected cost of these facilities is about `28.0 crore and the procurement is to be effected in 2013-14.

- The case for the procurement of land for the new Wireless Monitoring Stations was taken up with the respective State Governments in 2007. WMO has already procured land, at Bhubneshwar, Dehradun & Naya Raipur from the respective State Govts. for establishing Wireless monitoring Stations. WMO is also pursuing the matter for transfer of spare land/assets with BSNL at WMS's Bangalore,Hyderabad,Ranchi and Patna.

- WMO effectively and efficiently addresses new monitoring challenges emerging from the increasingly crowded radio frequency spectrum. WMO has taken steps to introduce new technologies and capacity-building. As 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 Monitoring Headquarter 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.

- Wireless Monitoring Stations have started functioning from the newly constructed buildings at Bhopal & Visakhapatnam. The construction of the office buildings is in progress at WMSs Jallandhar, Mangalore and Siliguri. Construction of office building of Wireless Monitoring Station, Mangalore is in completion stage. The land dispute in respect of WMS Goa has been resolved with the intervention of Hon'ble Chief Minister of Goa. WMO is initiating action to construct new office building for WMS Goa.

The review of the performance for the year 2013-14 and Dec. 2014 is placed at **Annexure - "I(i)&(ii)"**.

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.

[No change proposed from Outcome Budget-2014-15 (Para 4.6)]

4.6.1 Public Access: Village Public Telephones

As on 30.11.2014, **5,81,410 out of the 5,93,601 inhabited villages** [i.e. 97.95%] of the country as per Census 2001 have been covered with Village Public Telephones (VPTs). VPTs are being provided in remaining inhabited uncovered villages through on-going USOF scheme of VPTs in newly identified uncovered villages as per Census 2001.

USOF Scheme for VPTs in newly identified uncovered villages as per Census 2001:

Reconciliation of the VPTs working in the inhabited villages as per Census 2001 was carried out taking into account the existing VPT and those provided under Bharat Nirman. All the remaining inhabited villages as on 01.10.2007 as per Census 2001 irrespective of criteria of population, remoteness, accessibility and law &order situations have been included for provision of VPTs with subsidy support from USO Fund under this scheme. Agreements in this regard were signed with BSNL on 27.02.2009. BSNL has submitted that VPTs will be provided in remaining inhabited villages by March 2015.

4.6.2 Wireline Broadband Connectivity in Rural and Remote Areas.

USOF has signed an Agreement with BSNL on January 20, 2009 under this Scheme which was launched to provide wire-line broadband connectivity to rural & remote areas by leveraging the existing rural exchange infrastructure and copper wire-line network. This scheme is being implemented at pan-India level. The objective is to make the rural and remote areas broadband enabled by facilitating the service providers in creating Broadband infrastructure. The speed of each of the broadband connections shall be at least 512 kbps always on, with the capability to deliver data, voice and video services in the fixed mode. The rural broadband connectivity will cover Institutional Users, such as Gram Panchayats, Higher Secondary Schools and Public Health Centres, as well as Individual Users, and located in the villages.

Under this scheme, BSNL will provide 8, 88,832 wire-line Broadband connections to individual users and Government Institutions and will set up 28,672 Kiosks over a period of SIX-years, i.e. by 2015 (extended by one year from the original target of January, 2014). The subsidy disbursement is for (i) broadband connections, Customer Premises Equipment (CPE), Computer/Computing devices (ii) setting up of Kiosks for public access to broadband services. The estimated subsidy outflow is Rs. 1500 crore.

Under this scheme, as of 30th November 2014, a total of 6,39,572 broadband connections have been provided and 14,592 kiosks have been set up in rural and remote areas. Scheme.

4.6.3 General Infrastructure Augmentation- Optical Fibre Network Augmentation, Creation and Management of Intra- District SDHQ-DHQ OFC Network :

The Indian Telegraph Rules have been amended, to add Stream- V which enables USOF toprovide support for creation of general infrastructure in rural and remote areas for the development of telecommunication facilities.

USOF has signed MoU TCIL for assistance in the OFC network Augmentation for all the Services Areas/ States in a phased manner.

i) Optical Fibre Network Augmentation, Creation and Management of Intra- District SDHQ-DHQ OFC Network in Assam:

The State of Assam has been taken up first for implementation. As per the outcome of the tender for implementation of this scheme in Assam, BSNL has been declared the successful bidder at a subsidy quote of Rs. 98.89 Crore, and subsequently, an Agreement has been signed with them on 12.02.2010 in this regard.

This OFC Scheme would connect 354 total locations in Assam in total 27 Districts in about 58 months from the date of signing of the Agreement i.e. by December 2014. The Agreement shall be valid for a period of ten years from the effective date.

At least 70% of the subsidized bandwidth capacity, created under the scheme, shall be shared with the licensed service providers in the area of Assam at a rate not more than 26.22 % of the current TRAI ceiling tariffs.

As of November 2014, about 302 nodes have been installed out of total 354 nodes.

ii) (a) Optical Fibre Network Augmentation, Creation and Management of Intra- District SDHQ-DHQ OFC Network in NE-I Circle (comprising states of Arunachal Pradesh, Manipur & Nagaland

Optical Fibre Network Augmentation, Creation and Management of Intra- District SDHQ-DHQ OFC Network in NE-I Circle (comprising states of Meghalaya, Mizoram & Tripura):

The States of Meghalaya, Mizoram & Tripura have been taken up for OFC augmentation in this scheme. As per the outcome of the tender for implementation of this scheme, M/s RailTel Corporation of India Limited has been declared the successful bidder at their subsidy quote of Rs. 89.50 Crore.

This OFC Scheme would connect 188 locations in 19 Districts within 36 months from the date of signing of the Agreement i.e. by 15.01.2015. The Agreement shall be valid for a period of eight years from the date of signing of agreement i.e. 16.01.2012.

At least 70% of the subsidized bandwidth capacity, created under the scheme, shall be shared with the licensed service providers in the area at a rate not more than 12% of the current TRAI ceiling tariffs.

OFC laying work is under progress for several nodes while tenders for trenching and laying are under finalization for remaining nodes (Network roll out is yet to start).

(b) Optical Fibre Network Augmentation, Creation and Management of Intra-District SDHQ-DHQ OFC Network in NE-II Circle (comprising states of Arunachal Pradesh, Manipur & Nagaland):

The States of Arunachal Pradesh, Manipur & Nagaland have been taken up for OFC augmentation in this scheme. As per the outcome of the tender for implementation of this scheme, M/s RailTel Corporation of India Limited has been declared the successful bidder at their subsidy quote of Rs. 298.50 Crore.

This OFC Scheme would connect 407 locations in total 30 Districts within 42 months from the date of signing of the Agreement i.e. by 15.07.2015. The Agreement shall be valid for a period of eight years from the date of signing of agreement i.e. 16.01.2012.

At least 70% of the subsidized bandwidth capacity, created under the scheme, shall be shared with the licensed service providers in the area at a rate not more than 27% of the current TRAI ceiling tariffs.

OFC laying work is under progress for several nodes while tenders for trenching and laying are under finalization for remaining nodes (Network roll out is yet to start).

4.6.4 National Optical Fibre Network (NOFN):

NOFN project is planned to connect all Gram Panchayats (approx. 2.5 Lakh) in the country through optical fibre utilizing existing fibers of PSUs viz. BSNL, RailTel and Power Grid and laying incremental fiber wherever necessary to bridge the connectivity gap between Gram Panchayats (GPs) and Blocks. Minimum 100 Mbps bandwidth will be available at each Gram Panchayat. Non-discriminatory access to the network will be provided to all categories of service providers.

NOFN Project was envisaged as a Centre-State joint effort. State Governments are expected to contribute by way of not levying any RoW charges thus require suitable tri-partite MoU to be signed by GOI, State Governments & BBNL.Tri-partite MoU has been signed with all states and Union Territories except Tamil Nadu and Lakshadweep.

Three Pilot Projects have been completed to cover 59 Gram Panchayats of Arain Block in Ajmer District (Rajasthan), Panisagar Block in North Tripura District (Tripura), Paravada Block in Vishakhapatnam District (A.P.). As on date, total 86 Gram Panchayats have been connected.

The project is likely to be completed by 31.12.2016 in a phased manner as follows:

Phase I	50,000 Gram Panchayats	by 31.03.2015
Phase II	Another 1,00,000 Gram Panchayats	by 31.03.2016
Phase III	Remaining 100,000 Gram Panchayats	by 31.12.2016

4.6.5 Scheme for Mobile Communication Services in Left Wing Extremism (LWE) affected Areas :

On 20.08.2014, the Cabinet approved a project to provide Mobile Services in 2199 locations [1836 new sites & 363 sites already installed by BSNL] in Left Wing Extremism (LWE) affected areas in 10 states to be funded by Universal Service Obligation Fund (USOF). Installation and roll out in these areas is targeted to be completed in 12 months. Agreement between USOF and BSNL has been signed on 30.09.2014. Installations of 500 towers are targeted by March, 2015.

4.6.6 DoT-USOF's Sanchar Shakti Scheme:

The Department of Telecommunication under its Gender Responsive Budgeting Commitments, had decided to launch pilot projects aimed at facilitating Rural Women's Self Help Groups' (SHGs) access to ICT enabled services as an aid to their education, training employment opportunities, health and safety.

Accordingly USOF decided to initiate gender specific USOF subsidized pilot projects under the aegis of Sanchar Shakti scheme. The Sanchar Shakti pilot scheme for Mobile Value Added Services (VAS) provisioning envisages development of content/ information customized to the requirements of women SHG members engaged in diverse activities in rural areas across India. The scheme entails innovative application of technology in designing & delivering the VAS content so as to ensure its easier accessibility & effective assimilation among the targeted women beneficiaries.

Four pilot agreements have since been signed between USOF Administration and the service providers in Pune district (Maharashtra circle), Ajmer district (Rajasthan circle), Uttarakhand and Srikakulam, East Godavari & Vishakhapatnam districts (A.P. circle).

Further Agreements for extension of Sanchar Shakti to 3200 women beneficiaries each in Azamgarh district (UP East circle) and Saharanpur district (UP west circle) are under process.

The USOF subsidy disbursed for the Sanchar Shakti activity as on31.12.2014 is Rs. 66 lakhs.

DISBURSEMENT STATUS

(I) Rs 2163.44 crore was disbursed during the financial year 2013-14 against the budgetary allotment of Rs. 3000 crore (BE)

(II) A budgetary allocation for the financial year 2014-15 (BE) of Rs 3537 Crore wasreceived for various USOF schemes. In RE Rs 2086.98 Cr for F/Y 2014-15 has been received for all USOF schemes. As on 31.12.2014, Rs 1781.93 Crore has been disbursed.

(III) A review of performance for the year 2013-14, first nine months FY 2014-15 and projected performance for the remaining three months of FY 2014-15 is appended.

4.7 PUBLIC SECTOR UNDERTAKINGS

4.7.1 BHARAT SANCHAR NIGAM LIMITED

BSNL has introduced cellular mobile service (GSM based) from October 2002 and has provided 806.26 lakh GSM connections till 30.11.2014.
3G services were launched commercially on 27th February 2009 in selected cities and the same is available in 2592 cities as on 30.11.2014.

BSNL as an Internet Service Provider (ISP) provides a full range of internet services including dial up internet services. All the wireline telephone connections are enabled for Dial up Internet services.

In pursuance to the Broadband Policy 2004 of the Government, BSNL introduced Broadband Services by the name "Data One" in January 2005 and has provided 99.74 lakh wireline broadband connections including Fiber to the Home (FTTH) broadband as on 30.11.2014. BSNL is also providing wireless Broadband service using 3G, Wi-Max & EvDO technologies.

BSNL has introduced a number of value added services both on Broadband and 3G. A few of them are listed below:

a. Mobile Banking services with National Payments Corporation of India (NPCI) on USSD Channel for No frill accounts under Financial Inclusion Project and Adhaar enabled Payment system.
b. VAS Retailing service i.e. Selling of VAS through Retail channel.
c. 3G Video chat services.
d. Range of M-Governance services on USSD & IVR platform through Department of IT.
e. Mobile Wallet & associated services with Banks.
f. Mobile Money Transfer Service to cover other Postal Circles as per requirements of Dept. of Posts.
g. Location Based Services.

The target & achievement with respect to "Outcome Budget 2013-14" is indicated at Table -A

The target & achievement up to 30.11.2014 with respect to "Outcome Budget 2014-15" is indicated at Table -B.

Targets:- The physical targets & achievements for the year 2014-15 (RE) are as follows:

Table-A

S. No.	Item	Unit of measurement	Target (2014-15)	Achievement up to 30.11.2014
1	Addition in GSM capacity	In lakh lines	100	36.41
2	GSM Mobile connections	In lakhs	100	(-) 117.74
3 *	Broadband connections (ADSL + FTTH+ EVDO+ WIMax)	In lakhs	30	(-) 0.41
4	Addition in OFC	RKMs	20,000	6143
5	Replacement of legacy wireline network to Next Generation Network (NGN)	In lakhs	5	-

4.7.1.1 The financial outlay in respect of BSNL is given below:

(All figures are Rs. in Crore)

	Year	Outlay
BE	2014-15	5132
RE	2014-15	7142
BE	2015-16	9796

Funding: BSNL meets its requirement of development from its Internal Resources and through bonds/ debentures/ borrowings.

The capital outlay during the current financial year RE 2014-15 is Rs.7142 crores.

The capital outlay for the year BE 2015-16 is Rs.9796 crores.

The physical targets are as per the draft MOU 2015-16 submitted to DPE. The same shall be finalized after discussion with the Task Force, constituted by DPE, scheduled for January, 2015.

The physical targets for the year 2015-16 (BE) are as follows:-

S. No.	**Item**	Unit of measurement	Target (2014-15)
1	Addition in GSM capacity	In lakh lines	60
2	Addition in GSM Mobile VLR connections	In lakhs	55
3	Broadband connections	In lakhs	30
4	Addition in OFC	RKMs	15,000
5	Replacement wireline Exchanges by NGN(Next Generation Network) Exchanges	In lakhs	5

**Note: ***The work of NFS (Network for Spectrum) for 21,000 RKMs, NOFN (Broadband connectivity to 73,500 Gram Panchayats) & commissioning of 1250 GSM BTSs to provide mobile coverage in Left wing Extremism (LWE) areas are not included above as these projects are undertaken by BSNL as an executing agency and the ownership as well as the capital expenditure of these projects is owned / funded by DOT / USOF.

4.7.1.2 Mechanism for monitoring physical progress

There is comprehensive performance measurement mechanism in BSNL to monitor the performance by the name GPMS (Gross Performance Measurement System). GPMS scorecard is assigned for each Circle/ SSA/ Business Verticals at Corporate Office. This covers all the financial, operating and physical parameters

Further, the setup of BSNL comprises of circles (which in most cases covers a state) which are headed by CGMs, an officer of HAG level. The area within a circle is divided in SSAs (which in most cases covers a district) which are headed by GM/ TDM (i.e. SAG/ JAG level officer) depending on the size of telecom assets.

Thus, the primary level of monitoring is done at SSA level and reported to circle who consolidates the circle positions and reports to corporate office which consolidates the BSNL position. At the Corporate Level, corresponding functioning unit monitors the performance and put up monthly, quarterly and half yearly report to Director/ CMD and initiates corrective action with the approval of Director/ CMD. In addition, monthly, quarterly/ half yearly reports as specified by DOT are sent for monitoring and review by DOT.

4.7.1.3 The projects/initiatives planned during 2015-16 are given below :

1. Augmentation of GSM capacity
2. Replacement of BSNL's wireline exchanges by Next Generation Network (NGN) Exchanges.
3. Expansion of OFC network.

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 Having achieved the telephone on demand situation in both the cities, the main thrust is 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. Action will also be taken to generate fresh demands by providing quality services, better customer care & satisfaction, introduction of new services / schemes and innovative marketing strategies.

(i) The actual physical performance in 2013-14 is as under:

S.No	Item	Annual Target	Achievement
1.	Net new connections including landline, WLL, Cellular and broadband connections *	250,000	188,935 #
2.	Optical Fibre Cable (in Fiber Km)	20,000	4,848.78 ##

Achievement does not include the deletion of 16,81,365 nos. (2,59,629-Del & 14,21,736-Mbi) dormant GSM Subscribers (who were inactive for more than a year). This step was taken as per the TRAI's requirement for efficient use of allotted numbering Plan and the system. Company has added 286,257 new GSM subscribers and also made a net addition of 52,559 in Broadband subscribers during the same period ie 2013-14.

The low achievement is due to the difficulty faced in getting digging permission in the metro cities of Delhi and Mumbai (the operation area of MTNL). Further the exorbitant digging and restoration charges makes the optical fiber laying project a capital intensive as well as time consuming project. As at present MTNL is passing through the severe financial difficulties MTNL is going slow on all Capital intensive projects like laying of OFC and as a matter of fact no procurement of OF Cable was made during past 3 years.

(ii) Performance in the first 9 months of the year 2014-15

(iii) The target Performance during 2015-16

(a) <u>Physical Targets for 2015-16</u>

S.No.	Items	BE(2015-16)
1.	Net new connections including landline, Cellular and broadband connections *	**400,000**
2.	New Switching Capacity addition including capacity for WLL GSM, NGN ,IMS	**900,000**
3.	Deployment of DSLAM / FTTH	**165,000**
4.	Optical Fibre Cable (in Fiber Km)	**30,000**

* Net new connection targets will not includes the disconnected dormant GSM subscribers (subscribers inactive for more than one year) and WLL subscribers

(b) Financial Outlay for 2015-16

(Rs in Crores)

S. No.	Items	BE (2015-16)
1.	Switching (Including TAX/Tandem/NGN) and access lines (including CDMA/WLL, GSM / 3G) in existing and new areas	**772.62**
2.	IT related services	**31.52**
3.	Expansion in New Services Areas abroad and National acquisitions	**1.00**
	Total	**805.14**

Note: Resources for some of the projects shall need to be garnered through deferred payment arrangements, leasing and / or capacity utilization linked payment. This shall supplement internal accrual / borrowing.

Government Assistance Required for Meeting the Targets

Considering the financial difficulties faced by the Company, for meeting the physical and financial targets proposed for BE-2015-16, Government assistance on the following is critical-

- Govt support for mobilization of funds to meet Capex requirement of its' projects for up-gradation / expansion of networks.
- Reduction HR Cost through a targeted VRS scheme or Salary support on diminishing basis for the targeted Govt recruited employees.
- Refund of Interest on BWA Payments.
- Support on Minimum Alternate Tax (MAT).
- Support for Debt Recasting.
- Support for retention of 2G spectrum beyond 4.4 Mhz.
- Permission for Sale and long lease of Real-estate property of MTNL and waiver of penalty for delay in construction.

The details for the targeted performance during 2015-16 has been attached as Annexure-II

(iv) Details of the mechanism put in place to monitor physical and financial progress

Both the units send monthly achievement report with respect to the physical and financial progress made every month, these reports are also submitted to DOT. In addition to this Annual Plan targets for each year are fixed for both the units and are monitored on a regular basis.

An MOU is also signed with the Govt. of India and the progress of which is closely monitored by the DOT.

4.7.3 ITI LIMITED

- The paid-up Share Capital of the Company as on 31.12.2010 is ` 588 Crores, consisting of ` 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.

- 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 ` 5.5 crore has been provided for RE 2013-14 and ` 6.00 crore has been provided in the BE 2014-15.

- Based on the seeking of Financial Assistance of ` 4156.79 crore, Draft Rehabilitation Scheme (DRS) was prepared by operating Agency (SBI) and submitted to BIFR which has been approved by BIFR in its hearing on 27th November 2012.

4.7.4 TELECOMMUNICATION CONSULTANTS INDIA LIMITED

The recent volatile global economic and business environment has shaken business confience of the industry and pace at which the economy recovers will be significant for the global prospects for coming years. Despite global slowdown, TCIL faced new challenges with great determination and was able to maintain its overall profitability and achieved turnover of ` 800.08 crore an increase of 17.30% over the last FY. The standalone profit before tax increased to ` 20.03 crore as against ` 19.87 crore of previous year.

Orders secured during the year 2014-15, till Sept. 2014 over ` 3803.00 crore as against previous year's figure of `1241.01 crore.

Company has developed a long term strategic plan to accomplish continued advancement and expansion. The strategy followed by the company to achieve the same is as follows:

i) Expanding the operations in Information Technology, Telecom as well as Civil infrastructure sector both in India and abroad.
ii) Acquiring State-of-the-Art Technology on a continuous basis and maintain Leadership.
iii) Enter areas of cost – effective network technologies for building new Telecom & Information Technology networks and upgrading legacy networks.
iv) Develop Telecom & Information Technology Training infrastructure in countries abroad.

The targets for turnover including other income have accordingly been kept as under:-

(` in crores)

2014-15	2015-16	2016-17	2017-18
876	1000	1100	1250

The performance highlights were as under:-

A. Standalone

(` in crores)

Particulars	**2013-14 (RBE)**	**2013-14 (Actual)**	**2012-13 Actual**
Revenue from operation	950.06	800.08	682.05
Other Income	16.25	16.43	26.16
Total Income	966.31	816.52	708.21
Profit before Tax	8.33	20.03	19.87
Profit after Tax	5.76	14.75	15.76
Foreign Exchange Repatriation	16.50	42.38	19.64
Order Booking	1100.00	1241.01	447.00
Net Worth	445.31	454.70	441.15

B. Consolidated

(` in crores)

Particulars	**2013-14 (RBE)**	**2013-14 (Actual)**	**2012-13 (Actual)**
Turnover including other income	2239.07	2079.03	1902.90
Profit before Tax	252.68	249.24	231.40

Order Booking 2014-15

During the year 2014-15, till Sep 2014, the Company has secured orders of over ` 3803.00 Crore. The major orders booked during the year are as under:

- Work awarded for OFC work, Supply, Installation & Termination of ODF in (FAIHA) NUZHA,suppliy , installatio & Termination of ODC in NBK in (DAYIA) NUZHA, UTP Work , supply, Installation & Termination of ODF at NBK in SABAHIYAH, Supply, Installation & Termination of ODF at NBK in SHAMIYA in Kuiwait valuing Rs.5.92 cr.
- Work awarded for the Establishment of Police Control Room with GIS and GPS equipment and Vehical Tracking System for the city of Ghaziabad, from Inspector General of Police/ Director, Telecom, UP Police Radio Headquarter, Lucknow valuing Rs.6.60 Cr.
- Work awarded for supply, Installation and Maintenance of Telecom Network in Farwaniya and Johra Government for MOC aqnd FOC & UTP work in Kuwait valuing Rs.93.19 Cr.
- Work awarded for supply, Installation and Maintenance of Telecom Network in Mubarak AL-Kabeer and Ahmadi Governments and FOC works i Kuwait valuing Rs.108.29 Cr.
- Awarded advance purchase order (APO) for Procurement, Supply, Trenching, Laying Installation, Testing and Maintenance of Optical Fiber Cable, PLB Duct and Accessories for construction of Exclusive Optical ND Backbone and Optical, Access routes on Turnkey basis for Defence Network against package 'C' from BSNL valuing Rs.2060.57 Cr.
- Work awarded for Construction of regional office byilding of Navodaya Vidyalaya Samiti at Lucknow, UP valuing Rs.1500.00 cr.
- Work awarded for Supply Local Material, OFC services, AMC of OFC UG Network in Nepal valuing Rs.10.41 Cr.
- Work awarded from Department of Post for Supply, Installation & Maintenance services of Hardware, Peripheral devices, Operating system and connectivity for Rural Information and Communication Technology (ICT) Solutions for four clusters (North, East, West and South) valuing Rs.1361.00 Cr.
- Work awarded for Consultancy Services for Architectural Planning, structural design and Project Management Services for Construction of IT/ITES corporate tower of RIADA at Namkon, Ranchi, Jharkhand of Rs.10 Cr.

Joint Venture

TCIL has the following Joint Venture companies:

ICSIL: Intelligent Communication Systems India Ltd.

TBL: TCIL Bellsouth Ltd.

TTL: Tamilnadu Telecommunications Ltd.

UTL: United Telecom Ltd. in association with MTNL, VSNL and Nepal Ventures Pvt. Ltd (NVPL).

BHL: Bharti Hexacom Ltd.

TSCL: TCIL Saudi Co. Ltd.

TCNL

TCIL Oman Ltd

TSCNL is presently not in operation while ICSIL and TTL is presently a subsidiary by virtue of TCIL having majority of Directors on its Board. On consolidating the projected results of these companies, Consolidated Profit & Loss position shall be as under:-

Consolidated financial results of JV companies:

(Rs in Crore)

Joint Venture Company	Turnover		Profit		TCIL's Share			
					Turnover		Profit	
	2014-15	2015-16	2014-15	2015-16	2014-15	2015-16	2014-15	2015-16
TCIL	876.42	1000.23	20.08	23.50	876.42	1000.23	20.08	23.50
ICSIL	66.42	69.74	3.11	3.26	23.91	25.99	1.12	1.17
TBL	2.75	2.89	.92	.97	1.24	1.30	.41	.44
TTL	14.46	15.18	(10.74)	(11.28)	14.46	15.18	(10.74)	(11.28)
Bharati Hexacom	4343.22	4560.38	875.91	919.71	1302.97	1368.11	262.77	275.91
UTL	25.48	26.76	(33.84)	(35.53)	6.79	7.13	(9.02)	(9.47)
TBTRL	-	-	-	-	4.88	5.48	(7.46)	(7.02)
TLTRL	-	-	-	-	-	4.80	-	(5.06)
Total	**5328.75**	**5675.18**	**855.44**	**900.62**	**2230.66**	**2427.34**	**257.16**	**268.19**

4.7.5 DOT Schemes

4.7.5.1 OFC based network for Defence Services

Cabinet Committee on Infrastructure (CCI) in its meeting held on 3rd December 2009 approved the alternate communication network for Defence Services for release of spectrum.

This 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 telephone and consequently the higher national growth of subscriber base. The spectrum available for mobile telephony has become inadequate due to the increasing demand of mobile services in the country. The work for Air Force network was started in 2006 and has been dedicated to the nation by 14.09.2010. The Army and Navy component of the network comprising of 219 and 33 sites respectively throughout the country has to be completed by December, 2012. 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 System (NMS), Security and Synchronization devices along with back up media on Microwave & Satellite for some strategic locations. The cost of the project was Rs. 8098 crore with the time line of 36 months (i.e. upto December, 2012) for implementation of the project. The proposal has been approved by CCI (Cabinet Committee on Infrastructure) in its meeting held on 03.07.2012 with revised timelines of 36 months for Rs. 5236 crore over and above Rs. 8098 crore already approved by CCI (Cabinet Committee on Infrastructure) on 03.12.2009.

An amount of Rs. 3065 crore has been provided in the BE 2014-15 for Army and Navy network part of the project.

Progress of the project vis-à-vis quantifiable/ deliverable is 2013-14 is at **"Annexure- M"**

Annexure – M

TELECOMMUNICATION ENTINEERING CENTRE

TELECOM ENGINEERING CENTRE (`Rs in Crore)

TCOME BUDGET 2013-14

	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2013-14	Quantifiable / Deliverables	Delivered (1.4.13 to 31.3.14)	Remarks /
	2	3	4	5	6	7
	Core Activities (Figures in units)					
	New Generic Requirements, Interface requirements and Service Requirements	Preparation of new GRs / IRs		15	13	
	Review of GRs/ IRs	Revision of existing GRs / IRs		23	22	
	Preparation of Test Schedule/ Test Procedure	Preparation of Test Schedule		52	49	
	Type approval	Certification to authorise use of equipment in telecom network		No target defined	4	
	Interface approvals of customer equipment			No target defined	71	
	Certificate of Approval			No target defined	6	
	Collection of revenue by Test fee (Rs.)			No target defined	1.05	
	Project Activities					
	NGN Labs	To carry out testing and certification of NGN complaint CPEs and terminals	2.2300	The amount was asked to make the pending payments after completion of work	0.0000	
	NE Region	Satellite based Broadband network			0.0000	
		EMF Measuring Instruments			0.0000	
	Procurement of EMF Measuring Instruments	EMF Testing		Budget was not allocated	0.0000	
	SAR Lab Mumbai	To carry out testing and certification of Mobile equipment about Specific Absorption Rate (SAR)		Budget was not allocated	0.0000	
	Total		**2.2300**		**0.0000**	

TELECOMMUNICATION ENTINEERING CENTRE
Performance for the year 2014-15

(`Rs in Crore)

Target Performance during 2014-15							
Name of the Scheme/ Programme	**Objective/ Outcome**	**Outlay 2014-15**			**Quantifiable/ Deliverables/ Physical Output**	**Project Outcome 1.3.2014 to 31.12.2014**	**Process/ Timelines**	**Remarks/ Risk Factors**
2	3	4			5	6	7	8
		4 (i)	4 (ii)	4 (iii)				
		Non-Plan Budget	**Plan Budget**	**Complementary Extra-Budgetary Resources**				
Core Activities (Figures in units)								
New Generic Requirements, Interface requirements and Service Requirements	Preparation of new GRs / IRs				18	4		
Review of GRs/ IRs	Revision of existing GRs / IRs				21	10		
Preparation of Test Schedule/ Test Procedure	Preparation of Test Schedule				39	15		
Type approval	Certification to authorise use of equipment in telecom network				No target defined	4		
Interface approvals of customer equipment					No target defined	56		
Certificate of Approval					No target defined	14		
Fee collection from testing (Rupees of crore)	Fee collection from testing				No target defined	0.61		
Project Activities								
NE- Region MH-45520020302 - TEC 020152- M&E	Satellite based Broadband network ---------- EMF Measuring Instrument		2.0000			0.0000		
MH.52750080001-TEC								

0103-EMF measuring Instruments 010352- M&E	Procurement of EMF instruments for TERM Cells of DoT to carry out the measurements of radiation levels from various BTS towers.		7.0000			0.0000		
0102-SAR Lab- (Mumbai & Delhi) 010252-M&E	To carry out testing and certification of mobile equipment about specific Absorption Rate(SAR)		1.0000			0.0000		
0105-Security Lab 010552-M&E	To cater the telecom industry's need for security testing of various networks elements and CPEs		3.0000			0.0000		
0106-CPE Lab 010652-M&E	To carry out testing of CPEs like telephone handset including multiline, cordless, CLIP, KTS, executive, modems, telephone attachment, POS terminals, SIP terminals, Bluetooth, Wifi		0.5000			0.0000		
0107-Green Passport Lab 010752- M&E	Certification of telecom product, equipment and service on the basis of ECR ratings, preparation of ECR document delineating the specification of the test procedure and methodology		0.4000			0.0000		
0108-**Regional Test Lab** (Mumbai, Kolkata, Bengaluru, Delhi) 010852M&E	To carry out testing and certification of testing instrument		1.1000			0.0000		
Expansion of LAN	Up gradation of existing LAN Infrastructure (including installation, testing, commissioning, etc.)	0.3000				0.0000		
Total		**0.3000**	**15.0000**			**0.0000**		

Annexure – N

WIRELESS MONITORING ORGANISATION
Performance for the year 2013-14

(Rs in Crore)

Sl. No	Name of Schemes/Programmes	Objective/ Outcome	Outlay 2013-14			Target (April, 13-Mar-14)		Achievement during (April, 13-Mar-14)		Remarks
			Non-Plan Budget	Plan Budget	Complementary Extra Budgetary Resources	Financial	Physical	Financial	Physical	
1.	2	3	4(i)	4(ii)	4(iii)	5	6	7	8	9
	Technical Scheme		N/A	**Nil**	Nil	N/A	N/A	N/A	N/A	
1	**Mobile Monitoring, including Direction Finding, facility (proposed 12th FYP outlay 220 cr.): Procurement of:**	06 Nos. V/UHF vehicle-mounted mobile and portable monitoring, including Direction finding (DF) terminals for six new Wireless Monitoring Stations (WMSs) established in 11th FYP	N/A	Nil	Nil	100%	100%	Nil	Nil	The Bid document for the procurement of Six V/UHF terminals (vehicle-mounted and portable) for six newly created wireless monitoring stations under 11th FYP was submitted to WPF in September, 2010 has been vetted by the WPF. Further estimated approval of TC will be sought shortly for this procurement.
2		04 Nos. SHF Vehicle mounted & portable monitoring terminals	N/A		Nil	100%	100%	Nil	Nil	A draft T.C Memo for procurement of SHF Microwave Terminals is under consideration in the Ministry

	Name of Schemes/Programmes	Objective/ Outcome	Outlay 2013-14			Target (April, 13-Mar-14)		Achievement during (April, 13-Mar-14)		Remarks
			Non-Plan Budget	Plan Budget	Complem-entary Extra Budgetary Resources	Financial	Physical	Financial	Physical	
1.	2	3	4(i)	4(ii)	4(iii)	5	6	7	8	9
2.1	**Fixed Monitoring, including Direction Finding, facility (proposed 12th FYP outlay 40 cr.): Procurement of:**	06Nos. fixed HF monitoring facility	N/A	Nil	Nil	100%	100%	Nil	Nil	Member (T) has accorded the administrative approval to this proposal and the draft Bid document for this procurement was submitted to WPF for vetting. WPF has advised that a committee may be constituted to examine the draft bid document. Committee has already examined the draft Bid document and its recommendations are being forwarded to WPF.
3.1	**Specialised hardware/ software and auxiliary components (proposed 12th FYP outlay 80 cr. procurement of:**	06 Nos. Network analyzers and coverage measurement equipments.	N/A	1.5	Nil	100%	100%	1.2231	Nil	Two nos.of Real time spectrum analysers have been procured through DGS&D for Training and Development Centre and ISMES Jalna
3.2		Real time Spectrum Analysers	N/A		Nil	Nil	Nil	Nil	Nil	

(Rs in Crores)

(In Crores)

. o.	Name of Schemes/ Programmes	Objective/ Outcome	Outlay 2013-14			Target (April, 13-Mar 14)		Achievement during (April, 13-Dec-13)		Remarks
			Non-Plan Budget	Plan Budget	Complem-entary Extra Budgetary Resources	Financial	Physical	Financial	Physical	
.	2	3	4(i)	4(ii)	4(iii)	5	6	7	8	9
.	**Manpower requirement** Creation of Project Implementation Unit (PIU).	To implement the technical schemes.	N/A	**@**	Nil	N/A	N/A	N/A	N/A	Proposal will be submitted after approval of scheme at 1.1 above. @ Funds to be met from the proposed outlay for scheme at 1.1 above.
.	Misc. Expenses i.e. Salary, Office & Travel etc.	Expenditure under the different heads including salary in respect of 6 new WMSs .	N/A	1.00	Nil	100%	N/A	0.4765	N/A	Expenditure under the different heads including salary in respect of 6 new WMSs . Expenditure under the different heads including salary in respect of 6 new WMSs .
	Total (A)		N/A	**2.5**	Nil	**100%**		**1.6996**		
	Civil Works Total (B)	Miscellaneous Civil works such as procurement of land, construction of office buildings, staff quarters & ancillaries.	N/A	**4.0**	Nil	**100%**	It is difficult to physic-ally quantify different Civil works under various stages of execution by CPWD	**3.4507**	It is difficult to physic-ally quantify different Civil works under various stages of execution by CPWD	(i) Construction of office buildings by CPWD at WMSs Jalandhar, WMS Siliguri & WMS Mangalore. (ii) Acquisition of land/ assets from BSNL for WMSs at Bangalore, Hyderabad, Patna & Ranchi under consideration by BSNL and (iii) Payment of annual lease rent for land of WMS Raipur (iv) Registration fee for land of WMS Bhubaneswar (v) Construction of staff quarters by CPWD at ISMES Jalna.(vi) Allotment of land for WMS Dibrugarh in North-East is under consideration of the State Govt.
	G. Total (A)+ (B)		N/A	**6.5**	Nil	**100%**		**5.1503**		

[**Annexure – O]**

WIRELESS MONITORING ORGANISATION
Performance for the year 2014-15

(In Crores)

No.	Name of Schemes/ Programmes in 12th FYP	Objective/ Outcome 12th FYP	Outlay 2014-15 **(Rs. In Crores)**			Quantifiable/ Deliverables/ Physical Outputs	Projected Outcome	Process/ Timelines	Remarks / Risk Factors
			Non-Plan Bud-get	Plan Bud-get	Comple-mentary Extra-Budgetary Resources				
1.	2	3	4			5	6	7	8
	Technical Schemes		4(i)	4(ii)	4(iii)				
	Technical Schemes					**Procurement of:**			
1.	Mobile Monitoring, including Direction Finding, facility	Procurement of: • Vehicle-mounted monitoring terminals ▪ Transportable monitoring (including remote monitoring) terminals ▪ Man-pack monitoring terminals ▪ Vehicle-mounted direction finding terminals ▪ Transportable direction finding terminals ▪ Man-pack direction finding terminals ▪ Airborne mobile monitoring terminals ▪ 100 vehicles (mostly small sized, but some	N/A	25.0 *	Nil	(a) Procurement of six vehicle-mounted mobile and portable monitoring terminals for the six newly established monitoring stations in the XIth FYP, at an estimated cost of Rs. 58.5 crore. (b) Procurement of four microwave terminals planned earlier in the FY 2013-14, at an estimated cost of Rs. 20.0 crore. (c) Salary component of Rs 1.55 crore for the staff and other misc. office expenses of six	1. To equip new WMSs with monitoring facilities. 2. To augment / enhance monitoring capabilities at existing WMSs.	To be completed within 12th FYP	To be implemented with the approval of competent authority and concurrence of IFA * Expenditure in the current FY will be limited to the extant of funds available

		big trucks)				newly created WMS's and Project Implementation Unit (PIU) proposed to be created in 12th FYP.			
2.	Fixed Monitoring, including Direction Finding, facility	Procurement of : ▪ Terrestrial fixed monitoring systems ▪ Terrestrial fixed direction finding systems ▪ Satellite monitoring systems	N/A	6.35	Nil	(a) Procurement of 6 Nos. of fixed HF Fixed Monitoring facility for six new WMSs at an estimated cost of Rs 3.5 crore. (b) Phased replacement of HF and VHF monitoring equipment (other than supplied under the World Bank Project) at monitoring stations against the condemned equipment at an estimated cost of Rs. 4.0 crore. (c) Up-gradation of satellite monitoring and measurement facility at ISMES, Jalna at an estimated cost of Rs. 10.0 crore for enhanced monitoring capability in L, Ku and Ka bands.	To address monitoring of transmissions in HF and lower bands as well as satellite emissions	To be completed within 12th FYP	* Expenditure in the current FY will be limited to the extant of funds available
3	Type approval, testing, calibration and	To procure hardware & software for Type approval testing	N/A	Nil	Nil	Procurement of hardware & software	To facilitate Type approval, testing , calibration and maintenance	To be completed within 12th FYP.	

	maintenance facility						of monitoring equipments		
4	Specialised hardware/ software and auxiliary components	To procure specialised hardware/ software and auxiliary components to enhance monitoring capabilities	N/A	8.50	Nil	(a) Procurement of Real-Time Signal Analysers/ portable signal analysers and Radio Network Analysers. (b) Replacement of existing five nos. specialized noise measurement equipments	To enhance monitoring capabilities of special transmissions	To be completed within 12th FYP	Portable signal analyzer has also be included in this scheme * Expenditure in the current FY will be limited to the extant of funds available
5	Training and Development facility	To procure technical hardware and software	N/A	Nil	Nil	Procurement of technical hardware and software	To develop training facilities.	To be completed within 12th FYP	
6	Manpower requirement	▪ Manning of Training and Development Centre ▪ Manning of six new WMSs created in 12th Five Year Plan ▪ Manning of microwave monitoring terminals ▪ Manning of Satellite Monitoring facility ▪ Manning of Type approval, testing, calibration and maintenance facility ▪ Manning of Project Implementation Unit	N/A	*	Nil	Creation of Project Implementation Unit.	To facilitate speedy implementation of Plan schemes under 12th FYP. Creation of posts under various 12th FYP schemes.	To be completed within 12th FYP	*Salary component to be met from Budgetary allocation under S.No.1 above

7.	Misc. Expenses i.e. Salary, Office & Travel etc.	Expenditure under the different heads including salary in respect of 6 new WMSs .	N/A	1.55	Nil	Misc. office expenses, Travel, Advt. Salary of the staff etc	Expenditure under the different heads including salary in respect of 6 new WMSs & PIU.		
	Total (A) Technical Schemes		N/A	**41.40**	Nil	N/A	N/A		
8	**<u>Civil Schemes</u>** **Civil Works** **Total (B)**	Miscellaneous Civil works such as procurement of land, construction of office buildings, staff quarters & ancillaries.	N/A	**7.6**	Nil	Procurement of land & civil construction works at Dibrugarh, Lucknow, Patna, Vijayawada, Ranchi, Bangalore, Jammu, Jalandhar, Silliguri, Jalna, Goa, Mumbai, Delhi, Nagpur, Dehradun, Raipur, Bhubaneswar etc.	Housing of Monitoring establishments and staff in their own building	Execution of ongoing/ sanctioned civil construction works within 12th FYP	Subject to (i) availability of land with State Govts/BSNL, & dependency on construction work by CPWD/BSNL on time(ii) administrative approval & financial concurrence of the competent authority.
	G. Total (A) + (B)		N/A	**49.0**	Nil				

Annexure- P

UNIVERSAL SERVICE OBLIGATION FUND

Performance during 2013-14 and 2014-15

(Rs. In Crore)

Actual performance during 2013-14, first nine months of 2014-15 and target performance fore remaining three(3) months of 2014-15

Sl. No.	Name of Activity	Total physical targets for the scheme		Physical outcome by 31-3-2014 (Progressive)	Financial year 2013-14		Financial year 2014-15								Remarks
							Annual Targets				Actual Performance upto Dec. 2014 (9months)		Projected performance for Jan'15 to March'15 (3 Months)		
		Original	Revised		Financial Outlay (In crores)	Physical Outcome	Financial (Rs. In Crores)- Original	Financial (Rs. In Crores)- Revised	Physical- Original	Physical- Revised	Financial (Rs. In crores)	Physical	Financial (Rs. In crores)	Physical	
1	2	3	4	5	6	7	8	9	10	11	12	13			16
1	Operation & Maintenance of VPTs	Note-1	Note-1		0.48		0.01	0			0		0		
2	Replacement of MARR VPTs (Total)	182766	185121	184800 (DSPT-370)	4.68	0	0.22	-0.3			-0.52		0.22		See Note - 1
3	Provision of RCPs	43409	40694		0.01		0.07	0			0		0		
4	VPTs in Uncovered villages as per census 1991	66822	62302	62101 (DSPT-3755)	1.19		0.01	0			0		0		
5	RDELs installed between 01.04.02 to 31.03.05	Note-5	Note-5		0.03		0.05	0			-0.01		0.01		See Note - 2
6	RDELs installed between 01.04.05 and 31.03.07 and (extended up to 31.3.2010)	Note 6.	Note 6.		-6.23		2.8	2.8			0.26		2.54		See Note - 3

7	Shared Infrastructure Support (Towers & Mobile services) [Phase-I]	7363	7353	7317	64.4	0	10.45	21.07	0	0	7.11	0	13.96		See note 4
8	VPTs in the newly identified uncovered villages as per Census 2001	62443	62443	51360 (DSPT-925)	22.04	213 (DSPTs-2)	23.28	19.8	2483 (DSPT-1340)	2483 (DSPT-1340)	4.91	(-) 49 (121 VPTs provided and 170 disconnected as on 30.11.2014)	14.89	2483 (DSPT-1340)	Already existing VPTs of PBSOs as 4086 found to be working has not been taken into account as mentioned in column no 5. see note 5
9	Support for Rural Wireline Household DELs installed prior to 01.04.2002	Note 9	Note 9		1500		1250	0			0		0		See Note - 6
10	Wireline broadband connectivity in rural and remote areas	861459 BB connections and 27789 kiosks	888832 BB connections and 28672 kiosks	589783 BB connections & 14294 Kiosks	60.48	119484 BB Connections & 2851 Kiosks	90.3	96.01	2.5 Lakh BB Connections & 10000 Kiosks	2.5 Lakh BB Connections & 10000 Kiosks	51.95	49789 BB & 298 Kiosks	44.06	40000 BB & 2500 Kiosks	See Note-7
11	Solar Mobile Charging Facilities	5000	5000		1.95		0.23	1			0.5		0.5		See Note - 8

12	Augmentation, creation & management of OFC Assam service area	OFC netwrok augmentation between SDHQ & DHQ in Assam	OFC netwrok augmentation between SDHQ & DHQ in Assam 354 OFC nodes to be installed	302	0	0	16.44	36.44	Installtion of 52 OFC Nodes	Installtion of 52 OFC Nodes	29.97	NIL	6.47	0	Scheme launched on 12.2.10 & total 354 OFC nodes to be installed (See Note-12)
13	National Optical Fibre Network (NOFN) For providing Broadband connectivity to 2,50,000 (Apprrx.) Village Panchayats in the country through extending existing Optical Fibre Network	To connect 245748 village panchayats to 6599 Blocks	To connect 245748 village panchayats to 6599 Blocks		514		1477.26	1308.41	100000 GPs	100000 GPs	1091	See Note 10	217.41	1. Row to be signed with TN & Lakshdweep 2. Connection 50,000 GPS	To provide Broadband connectivity through extending existing fibres of PSU viz BSNL, Railtel and Power Grid.
14	Providing Mobile connectivity in Left Wing Extrimism affected areas which are not covered by any service provider	provision of mobile service in about 2199 locations of LWE affected areas as identified by M/o Home Affairs			0		586.78	600	**500 Towers**	**500 Towers**	596.51		3.49	**500 Towers**	See Note 11

15	Satellite Rural Broadband Connectivity in rural and remote areas	Provision of broadband connectivity to specified rural & remote areas on satellite media (where terrestrial connectivity is not feasible)	600 Satellite BB connections	NIL	0	NIL	0	0	NIL	NIL	0	NIL	0		Scheme yet to be launched
16	Sanchar Shakti	Provision of mobile Value Added Services to rural women's SHGs for a period of one year			0.41		1.5	1.75			0.25		1.5		Agreements have been signed in four service areas.
18	Augmentation, creation & Management of OFC network in NE-I & NE -II (Earlier titled as SAs other than Assam)	OFC netwrok augmentation between SDHQ & DHQ	OFC n/w augmentation between SDHQ & DHQ in NE-1 & NE-II	NIL		NIL	77.6	0	NIL	Installation of 100 OFC Nodes	0	NIL	0	50 Nodes	Rollout yet to start.
	Total				**2163.44**	**0**	**3537**	**2086.98**	**0**	**0**	**1781.93**	**0**	**305.05**		
	Rounded off to				**2163.45**		**3537**	**2086.98**			**1781.93**		**305.05**		

Annexure- P

UNIVERSAL SERVICE OBLIGATION FUND

Performance during 2013-14 and 2014-15

(Rs. In Crore)

Actual performance during 2013-14, first nine months of 2014-15 and target performance fore remaining three(3) months of 2014-15

Sl. No.	Name of Activity	Total physical targets for the scheme		Physical outcome by 31-3-2014 (Progressive)	Financial year 2013-14		Financial year 2014-15								Remarks
							Annual Targets				Actual Performance upto Dec. 2014 (9months)		Projected performance for Jan'15 to March'15 (3 Months)		
		Original	Revised		Financial Outlay (In crores)	Physical Outcome	Financial (Rs. In Crores)- Original	Financial (Rs. In Crores)- Revised	Physical- Original	Physical- Revised	Financial (Rs. In crores)	Physical	Financial (Rs. In crores)	Physical	
1	2	3	4	5	6	7	8	9	10	11	12	13			16
1	Operation & Maintenance of VPTs	Note-1	Note-1		0.48		0.01	0			0		0		
2	Replacement of MARR VPTs (Total)	182766	185121	184800 (DSPT-370)	4.68	0	0.22	-0.3			-0.52		0.22		See Note - 1
3	Provision of RCPs	43409	40694		0.01		0.07	0			0		0		
4	VPTs in Uncovered villages as per census 1991	66822	62302	62101 (DSPT-3755)	1.19		0.01	0			0		0		
5	RDELs installed between 01.04.02 to 31.03.05	Note-5	Note-5		0.03		0.05	0			-0.01		0.01		See Note - 2

6	RDELs installed between 01.04.05 and 31.03.07 and (extended up to 31.3.2010)	Note 6.	Note 6.		-6.23		2.8	2.8			0.26		2.54		See Note - 3
7	Shared Infrastructure Support (Towers & Mobile services) [Phase-I]	7363	7353	7317	64.4	0	10.45	21.07	0	0	7.11	0	13.96		See note 4
8	VPTs in the newly identified uncovered villages as per Census 2001	62443	62443	51360 (DSPT-925)	22.04	213 (DSPTs-2)	23.28	19.8	2483 (DSPT-1340)	2483 (DSPT-1340)	4.91	(-) 49 (121 VPTs provided and 170 disconnected as on 30.11.2014)	14.89	2483 (DSPT-1340)	Already existing VPTs of PBSOs as 4086 found to be working has not been taken into account as mentioned in column no 5. see note 5
9	Support for Rural Wireline Household DELs installed prior to 01.04.2002	Note 9	Note 9		1500		1250	0			0		0		See Note - 6
10	Wireline broadband connectivity in rural and remote areas	861459 BB connections and 27789 kiosks	888832 BB connections and 28672 kiosks	589783 BB connections & 14294 Kiosks	60.48	119484 BB Connections & 2851 Kiosks	90.3	96.01	2.5 Lakh BB Connections & 10000 Kiosks	2.5 Lakh BB Connections & 10000 Kiosks	51.95	49789 BB & 298 Kiosks	44.06	40000 BB & 2500 Kiosks	See Note-7

11	Solar Mobile Charging Facilities	5000	5000		1.95		0.23	1			0.5		0.5		See Note - 8
12	Augmentation, creation & management of OFC Assam service area	OFC netwrok augmentation between SDHQ & DHQ in Assam	OFC netwrok augmentation between SDHQ & DHQ in Assam 354 OFC nodes to be installed	302	0	0	16.44	36.44	Installtion of 52 OFC Nodes	Installtion of 52 OFC Nodes	29.97	NIL	6.47	0	Scheme launched on 12.2.10 & total 354 OFC nodes to be installed (See Note-12)
13	National Optical Fibre Network (NOFN) For providing Broadband connectivity to 2,50,000 (Apprrx.) Village Panchayats in the country through extending existing Optical Fibre Network	To connect 245748 village panchayats to 6599 Blocks	To connect 245748 village panchayats to 6599 Blocks		514		1477.26	1308.41	100000 GPs	100000 GPs	1091	See Note 10	217.41	1. Row to be signed with TN & Lakshdweep 2. Connection 50,000 GPS	To provide Broadband connectivity through extending existing fibres of PSU viz BSNL, Railtel and Power Grid.
14	Providing Mobile connectivity in Left Wing Extrimism affected areas which are not covered by any service provider	provision of mobile service in about 2199 locations of LWE affected areas as identified by M/o Home Affairs			0		586.78	600	**500 Towers**	**500 Towers**	596.51		3.49	**500 Towers**	See Note 11

15	Satellite Rural Broadband Connectivity in rural and remote areas	Provision of broadband connectivity to specified rural & remote areas on satellite media (where terrestrial connectivity is not feasible)	600 Satellite BB connections	NIL	0	NIL	0	0	NIL	NIL	0	NIL	0		Scheme yet to be launched
16	Sanchar Shakti	Provision of mobile Value Added Services to rural women's SHGs for a period of one year			0.41		1.5	1.75			0.25		1.5		Agreements have been signed in four service areas.
18	Augmentation, creation & Management of OFC network in NE-I & NE -II (Earlier titled as SAs other than Assam)	OFC netwrok augmentation between SDHQ & DHQ	OFC n/w augmentation between SDHQ & DHQ in NE-1 & NE-II	NIL		NIL	77.6	0	NIL	Installation of 100 OFC Nodes	0	NIL	0	50 Nodes	Rollout yet to start.
	Total				**2163.44**	**0**	**3537**	**2086.98**	**0**	**0**	**1781.93**	**0**	**305.05**		
	Rounded off to				**2163.45**		**3537**	**2086.98**			**1781.93**		**305.05**		

Annexure – Q

BHARAT SANCHAR NIGAM LIMITED
Performance for the year 2013-14

(` in crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Quantifiable Deliverables (Physical Targets)*	Actual Achievement (Physical) up to 31.03.2014	Outlay 2013-14 (Rs. In Crores)**	Processes/ Timelines	Remarks / Risks / Constraints
1	Mobile	To provide Mobile connections on demand	Total 80 lakh	(-) 61.05 lakh	Annual Outlay for 2657 cr.		
			1st Quarter 20 lakh	(-) 30.92 lakh	1st Qtr. 266 cr.		
			2nd Quarter 20 lakh	0.60 lakh	2nd Qtr. 531 cr.		
			3rd Quarter 20 lakh	(-) 14.84 lakh	3rd Qtr. 797 cr.		
			4th Quarter 20 lakh	(-)15.88 lakh	4th Qtr. 1063 cr.		
2	Wireline & WLL	To provide DELs on demand	Total 0 lakh	(-)24.10 lakh	Annual Outlay for 903 cr.		
			1st Quarter 0 lakh	(-) 06.79 lakh	1st Qtr. 90 cr.		
			2nd Quarter 0 lakh	(-) 07.15 lakh	2nd Qtr. 181 cr.		
			3rd Quarter 0 lakh	(-) 5.14 lakh	3rd Qtr. 271 cr.		
			4th Quarter 0 lakh	(-) 5.02 lakh	4th Qtr. 361 cr.		
3	Broadband	To provide Multiplay i.e voice,video & data on demand and allied services	Total 30 lakh	0.83 lakh	Annual Outlay for 671 cr.		
			1st Quarter 07.50 lakh	0.31 lakh	1st Qtr. 67 cr.		
			2nd Quarter 07.50 lakh	0.28 lakh	2nd Qtr. 134 cr.		
			3rd Quarter 07.50 lakh	0.09 lakh	3rd Qtr. 201 cr.		
			4th Quarter 07.50 lakh	0.15 lakh	4th Qtr. 268 cr.		

4	TAX	To provide connectivity for additional exchange equipment & provide POIs on demand	Total 0 lakh	0 KCTs	Annual Outlay for 21 cr.		
			1st Quarter 0 KCTs	0 KCTs	1st Qtr. 2 cr.		
			2nd Quarter 0 KCTs	0 KCTs	2nd Qtr. 4 cr.		
			3rd Quarter 0 KCTs	0 KCTs	3rd Qtr. 6 cr.		
			4th Quarter 0 KCTs	0 KCTs	4th Qtr. 8 cr.		
5	OFC &Transmission Network	To provide Transmission network for new exchange equipment & provide Bandwidth on demand	Total 20,000 RKMs	14,388 RKMs	Annual Outlay for 944 cr.		
			1st Quarter 5000 RKMs	1546 RKMs	1st Qtr. 94 cr.		
			2nd Quarter 5000 RKMs	2669 RKMs	2nd Qtr. 189 cr.		
			3rd Quarter 5000 RKMs	2375 RKMs	3rd Qtr. 283 cr.		
			4th Quarter 5000 RKMs	5538 RKMs	4th Qtr. 378 cr.		

Note- * The Quantifiable Deliverables are as per MOU 2013-14 signed with DOT

** The distribution of Annual Financial Outlay quarterwise has been done as 10%,20%,30% and 40% for Q1, Q2, Q3 & Q4 respectively.

Annexure – Q

BHARAT SANCHAR NIGAM LIMITED
Performance for the year 2014-15

(Rs` in crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Quantifiable Deliverables (Physical Targets)*	Actual Achievement (Physical) up to 30.11.2014	Outlay 2014-15 (Rs. In Crores)**	Processes/ Timelines	Remarks / Risks / Constraints
1	Mobile	Addition in GSM capacity	Total 100 lakh	36.41 lakh	Annual Outlay for 3791cr.****		
			1st Quarter 25 lakh	14.94	1st Qtr. 379 cr.		
			2nd Quarter 25 lakh	16.38			
			3rd Quarter 25 lakh	5.09			
			4th Quarter 25 lakh		2nd Qtr. 758 cr.		
		Addition in GSM connections	Total 100 lakh	(-) 117.74 lakh			
			1st Quarter 25 lakh	(-) 51.00 lakh	3rd Qtr. 1137 cr.		
			2nd Quarter 25 lakh	(-) 26.90 lakh			
			3rd Quarter 25 lakh	(-) 39.85 lakh	4th Qtr. 1516 cr.		
			4th Quarter 25 lakh				
2	Wireline	To provide wireline DELs on demand & replacement of legacy wireline network by NGN	Total 5 lakh ***		Annual Outlay for 1168 cr.		
			1st Quarter 1.25 lakh	-	1st Qtr. 117 cr.		
			2nd Quarter 1.25 lakh	-	2nd Qtr. 234 cr.		
			3rd Quarter 1.25 lakh	-	3rd Qtr. 350 cr.		
			4th Quarter 1.25 lakh		4th Qtr. 467 cr.		

3	Broadband (ADSL+FTTH+EVDO+WIMAX)	To provide broadband connections (wireline + wireless) facilitating multiplay i.e voice,video & data on demand and allied services	Total 30 lakh	(-) 0.41 lakh	Annual Outlay for 597 cr.		
			1st Quarter 07.50 lakh	(-) 0.39 lakh	1st Qtr. 60 cr.		
			2nd Quarter 07.50 lakh	(-) 0.06 lakh	2nd Qtr. 119 cr.		
			3rd Quarter 07.50 lakh	0.04 lakh	3rd Qtr. 179 cr.		
			4th Quarter 07.50 lakh		4th Qtr. 239 cr.		
4	OFC	Laying & commissioning of OFC to provide Transmission network for new exchange equipment, mibile equipment & provide Bandwidth for core network	Total 20,000 RKMs	6142RKMs	Annual Outlay for 1586 cr.		
			1st Quarter 5000 RKMs	2788 RKMs	1st Qtr. 159 cr.		
			2nd Quarter 5000 RKMs	2211 RKMs	2nd Qtr. 317 cr.		
			3rd Quarter 5000 RKMs	1143 RKMs	3rd Qtr. 476 cr.		
			4th Quarter 5000 RKMs		4th Qtr. 634 cr.		

Note- * The Quantifiable Deliverables are as per MOU 2014-15 signed with DOT

** The distribution of Annual Financial Outlay quarterwise has been done as 10%,20%,30% and 40% for Q1, Q2, Q3 & Q4 respectively.

*** The target assigned is for the replacement of legacy wireline network by NGN

**** The financial outlay under mobile scheme includes both addition in GSM capacity & addition in GSM connections.

Annexure – R

MAHANAGAR TELEPHONE NIGAM LIMITED
Performance for the year 2013-14

(` in Crore)

S.No	Name of the Scheme / Programme	Objective / Outcome	Outlay 2013-14			Target 2013-14*		Achievement for the year 2013-14		Remarks
			Non Plan Budget	Plan Budget (Rs in crore)	Complementary Extra Budgetary Resources	Financial Outlay (Rs in Cr)	Physical	Financial Outlay (Rs in Cr) provisional	Physical	
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8	9
Name of Unit: MTNL										
1	Net new connections including landline, WLL, Cellular and broadband connections **	Increase in Net new customers	_	_	_	_	400K	_	1,88,935	#
2	New Switching Capacity addition including capacity for WLL GSM, NGN ,IMS (in K)	Increase in New Switching Capacity, broadband ports, expansion of fiber network	_	389.18	_	389.18	0	361.20	0.00	##
3	Deployment of DSLAM / FTTH						0		432	
4	Optical Fibre Cable (in Fiber Km)						20000		4848.78	-
5	IT related services	IT related Projects	_	15.67	_	15.67	-		-	-
6	Expansion in New Services Areas abroad and National acquisitions	Service in Overseas Operations	_	0.00	_	0.00	-		-	Subject to new overseas suitable opportunities
	Total		_	**404.85**	_	**404.85**		**361.20**	-	-

(i)* Targets are fixed on yearly basis

(ii)** Net new connection targets will not includes the disconnected dormant GSM subscribers (subscribers inactive for more than one year).

(iii)# As decided vide (ii) above in Annual Plan, this does not include the deletion of 16,81,365 inactive (dormant) GSM Subscribers. This steps was taken for efficient utilization of numbering plan allotted by DoT.

(iv)## These targets were fixed primarily for adding new capacity in GSM / 3G and broadband networks. However, since enough spare capacity in GSM / 3G and broadband networks is available and the services are available on demand , no new addition in the capacity is made.

Annexure – R

MAHANAGAR TELEPHONE NIGAM LIMITED
Performance for the year 2014-15

(Rs in crore)

S.No	Name of the Scheme / Programme	Objective / Outcome	Outlay 2014-15			Target 2014-15*		Achievement for the year 2014-15 (upto Dec 2014)		Remarks
			Non Plan Budget	Plan Budget (Rs in crore)	Complementary Extra Budgetary Resources	Financial Outlay (Rs in Cr)	Physical	Financial Outlay (Rs in Cr) provisional	Physical	
1	**2**	**3**	**4(i)**	**4(ii)**	**4(iii)**	**5**	**6**	**7**	**8**	**9**
Name of Unit: MTNL										
1	Net new connections including landline, WLL, Cellular and broadband connections **	Increase in Net new customers	_	_	_	_	250000	_	105081	
2	New Switching Capacity addition including capacity for WLL GSM, NGN ,IMS (in K)	Increase in New Switching Capacity, broadband ports, expansion of fiber network	_	446.55	_	446.55	0	139.16	0	#
3	Deployment of DSLAM / FTTH						0		0	
4	Optical Fibre Cable (in Fiber Km)						20000		3714	-
5	IT related services	IT related Projects	_	5.45	_	5.45	-		-	-
6	Expansion in New Services Areas abroad and National acquisitions	Service in Overseas Operations	_	0.00	_	0.00	-		-	Subject to new overseas suitable opportunities
	Total		_	**452.00**	_	**452.00**	-	**139.16**	-	-

(i)* Targets are fixed on yearly basis

(ii)** Net new connection targets will not includes the disconnected dormant GSM subscribers (subscribers inactive for more than one year).

(iii)# -The capacity addition targets were fixed in light of the proposed network up-gradation / expansion projects to be taken up during the year. However, Company is forced to go slow on these projects as due to severe financial constraint it was unable to mobilize funds required for these projects. Therefore these targets are revised to zero at the RE stage. Under revival plan Govt. support has been requested for helping MTNL in mobilization of funds required for Capex funding of important / critical network up-gradation / expansion projects.

DOT Schemes

Performance for the year 2014-15 **Annexure – S**

(Rs in Crore)

S. No.	Name of Scheme/ Programme	Objective/ Outcome	Outlay 2014-15			Quantifiable Deliverable / Physical Outputs	Projected Outcomes	Processes/ Timelines	Remarks/ Risk Factors
1	2	3	4			5	6	7	8
			4(i) Non-Plan Budget	4(ii) Plan Budget	4(iii) Comple-mentary Extra-Budgetary Resources				
1	OFC based Network for Defence Services (DS) (Army & Navy component)	To set up alternate network for Defence Services for releasing spectrum		3065.00		Laying of Optical Fibre Cable for Defence Services for providing alternate network	Alternate network on release of spectrum by Defence Services	Ongoing work	

Annexure - S

DOT Schemes
Outcome Budget 2014-15

(`Rs in Crore)

S.No	Name of the Scheme / Programme	Objective / Outcome	Outlay 2014-15			Quantifiable Deliverables / Physical Output	Projected Outcome	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	Technology Development & Investment Promotion (TDIP)	i.Technology Development like R & D and IPR Generation ii.Promoting manufacturing and export of telecom equipment and services iii.For promotional schemes like Telecom Centres of Excellence(TCOEs), National and International Participation in exhibitions iv. Promotion of telecom sector through conferences and exhibitions in India and abroad.		1.00		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 IPR Generation through Telecom Centres of Excellence (TCoE).	To project India as the hub for telecom equipment manufacturing and showcase the telecom growth in the country	On going activity	

Annexure – S

DOT Schemes
Performance for the year 2013-14

(Rs in Crore)

S.No.	Name of the Scheme / Programme	Objective / Outcome	Outlay 2013-2014 (R.E)	Quantifiable Deliverables / Physical Outputs	Processes / Timeliness	Achievement w.r.t. Col.(5) as on 31.12.2013	Remarks / Risk Factors
1	2	3	4	5	6	7	8
1.	Technology Development & Investment Promotion (TDIP)	i.Technology Development like R & D and IPR Generation ii. Promoting manufacturing and export of telecom equipment and services iii. For promotional schemes like Telecom Centres of Excellence(TCOEs), National and International Participation in exhibitions iv. Promotion of telecom sector through conferences and exhibitions in India and abroad.	1.50	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 IPR Generation through Telecom Centres of Excellence (TCoE).	Ongoing activity		

Annexure – S

DOT Schemes
Performance for the year 2013-14

(` in Crore)

S. No.	Name of Scheme/Programme	Objective/Outcome	Outlay 2013-14 (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t. Col (5) as on 31.03.2014	Remarks/ Risk Factors
1	2	3	4	5	6	7	8
1	HRM FOR IP&TAFS (i) Mid Career Training	Five stage Training programmes for IP&TAFS officers	8.0	Three MCT in 2013-14	Full year	MCT-II has successfully completed.	
	HRM FOR IP&TAFS (ii) Induction & In-service course	Induction training of Gr.A, Gr.B and Gr.C officers and regular Inservice courses as per schedule and on relevant issues.	3.0	Training outcomes can not be quantified	Full Year	Training is being conducted as per schedule.	
	HRM FOR IP&TAFS (iii) Institutional & capacity building	Ongoing process	1.0	Training and development w.r.t. columns 3.	Full Year	-	

DOT Schemes

Performance for the year 2014-15

Annexure – S

(Rs in Crore)

S. No.	Name of Schemes/ Programmes	Objective/ Outcome	OUTLAY 2014-15			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	HRM for IP&TAFS i) Mid Career Training	Five stage Training programmes for IP&TAFS officers	--	8.0	--	For institutionalized training(MCT) to individual officers for career progression preliminary work such as course development and design, preparation of course kit, Academic inputs exposure to various National/ International Institute/Organisation.	MCT-I, II & III for IP&TAFS officers	By last quarter of 2014-15.	
	HRM for IP&TAFS ii) Induction & In-service Course	Induction training of Gr.A, Gr.B and Gr.C officers and regular Inservice courses as per schedule and on relevant issues.	--	4.0	--	IP&TAFS Gr.A Probationers would be trained. Gr.B and Gr.C officers Induction training		Full Year	

	HRM FOR IP&TAFS iii) Institutional & Capacity Development Schemes & Initiatives	Ongoing process	--	3.0	--	Development of web based knowledge management portal, International co-operation and training in the field of communications etc.		Full Year	
2	PHYSICAL INFRASTRUCTURE FOR NICF	Building of NICF campus at Ghitorni, New Delhi	--	68.05	--	(i) The EFC note and DPR on setting up of Physical Infrastructure for NICF at Ghitorni was approved at a cost of Rs.248.20 crore in the Telecom Commission meeting held on 13.06.2014. (ii) Sanction of DoT was accorded for the Project at a cost of Rs.248.20 carore in view of the approval of Ministry of Finance vide Deptt. of Economic Affairs (DEA) O.M.No.3/05/2014-INF dtd.19.09.2014		Full Year	

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 2013-14, 2014-15 and 2015-16.

(Rs in crore)

	BE 2013-14			RE 2013-14			Actuals 2013-14		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
Budgetary Provision									
MH 3451-Secretariat Economic Services:									
(a) Secretariat (MOC)	0.00	7.00	7.00	0.00	5.73	5.73	0.00	5.05	5.05
(b) Directorate General Administration	0.00	182.40	182.40	0.00	171.85	171.85	0.00	172.43	172.43
(c) Administrator USO Fund	0.00	4.05	4.05	0.00	3.82	3.82	0.00	3.11	3.11
(d) C-DOT	250.00	0.00	250.00	250.00	0.00	250.00	224.25	0.00	224.25
(e) TEC	0.00	54.30	54.30	0.00	40.71	40.71	0.00	40.64	40.64
(f) TERM Cells	0.00	29.04	29.04	0.00	50.44	50.44	0.00	46.89	46.89
(f) Tribal Area Sub-Plan (TSP)	1.10	0.00	1.10	1.10	0.00	1.10	0.00	0.00	0.00
Total -MH 3451	**224.00**	**283.39**	**507.39**	**224.00**	**276.87**	**500.87**	**224.25**	**268.12**	**492.37**
MH 2071 – Pension									
Pension	**0.00**	**5508.00**	**5508.00**	**0.00**	**5950.00**	**5950.00**	**0.00**	**5657.23**	**5657.23**
MH 3275 –Other Communications Services:									
(a) Wireless Planning and Co-ordination	1.30	7.98	9.28	2.70	7.72	10.42	1.37	7.07	8.44
(b) Wireless Monitoring Services	1.22	26.00	27.22	0.90	23.94	24.84	0.42	22.93	23.37
(c) International Co-operation (ITU,APT, CTO)	0.00	24.26	24.26	0.00	24.26	24.26	0.00	23.11	23.11
(d) Transfer to Telecom Authority of India General Fund	22.00	35.00	55.00	22.00	41.00	63.00	20.00	41.00	61.00
(e) Telecom Dispute Settlement and Appellate Tribunal	1.50	11.51	13.01	1.28	11.81	13.09	0.40	11.31	11.71
(f) Financial reliefs to ITI Limited	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50	5.50
(g) Compensation to I.T.I	0.00	7.00	7.00	0.00	5.50	5.50	0.00	0.00	0.00
(h) Transfer to USO Fund	3000.00	0.00	3000.00	3000.00	0.00	3000.00	2163.45	0.00	2163.45

(i) USOF-Compensation to Service Providers	2683.80	0.00	2683.80	2683.80	0.00	2683.80	2163.45	0.00	2163.45
(j) Technology Development & Investment Promotion	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.36
(k) Human Resource Management for IP&TAF Service.	3.00	0.00	3.00	3.40	0.00	3.40	3.37	0.00	3.37
(l) Tribal Area Sub-Plan (TSP)	13.40	0.00	13.40	13.30	0.00	13.30	0.00	0.00	0.00
Total - MH 3275	**5725.42**	**111.75**	**5828.98**	**5727.38**	**114.23**	**5836.12**	**2189.01**	**110.92**	**2300.31**
MH 2552 -Provision for North East Region	329.00	0.00	329.00	329.00	0.00	329.00	0.00	0.00	0.00
Total - Revenue Section	**5949.42**	**5903.14**	**12173.37**	**6280.38**	**6341.10**	**12615.99**	**2413.26**	**6036.27**	**8449.91**

(Rs in crore)

	BE 2013-14			RE 2013-14			Actual 2013-14		
	Plan	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**	**Plan**	**Non-Plan**	**Total**
Capital Section:									
MH 5275 - Capital Outlay on Other Communication Services									
(a) TEC	00.00	0.00	00.00	0.00	0.00	0.00	0.00	0.00	0.00
(b) WPC	0.50	0.00	0.50	0.40	0.00	0.40	0.01	0.00	0.01
(c) WMO	32.08	0.00	32.08	1.50	0.00	1.50	4.63	0.00	4.63
(d) OFC Net work for Defence Services	2180.50	0.00	2180.50	314.10	0.00	314.10	211.51	0.00	211.51
(e) Physical Infrastructure for NICF	23.99	0.00	23.99	3..00	0.00	3.00	0.38	0.00	0.38
Total - MH - 5275	**2237.07**	**0.00**	**2237.07**	**319.00**	**0.00**	**319.00**	**216.53**	0.00	**216.53**
MH-4859-Investments in Bharat Broadband Network Limited (BBNL) *	00.00	0.00	00.00	00.00	0.00	00.00	0.00	0.00	0.00
MH- 6859 - Loans to I.T.I Ltd	0.01	0.00	0.01	0.01	0.00	0.01	0.00	0.00	0.00
MH 4552 -Provision for North East Region	251.00	0.00	251.00	36.00	0.00	36.00	0.00	0.00	0.00
Total - Capital Section	**2488.08**	**0.00**	**2488.08**	**355.01**	**0.00**	**355.01**	**216.53**	0.00	**216.53**
								0.00	0.00
Total Telecommunications Services	**8437.50**	**5903.14**	**14661.45**	**6635.39**	**6341.10**	**12971.00**	**2629.79**	**6036.27**	**8666.44**

B.E. 2014-15 & R.E. 2014-15 and B.E. 2015-16									
									(Rs. in crore)
	BE 2014-15			RE 2014-15			BE 2015-16		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
Budgetary Provision									
MH 3451-Secretariat Economic Services:									
(a) Secretariat (MOC)	0.00	6.49	6.49	0.00	4.15	4.15	0.00	5.48	5.48
(b) Directorate General Administration	0.00	104.45	104.45	0.00	192.26	192.26	0.00	112.09	112.09
(c) Administrator USO Fund	0.00	4.57	4.57	0.00	3.78	3.78	0.00	3.38	3.38
(d) C-DOT	172.75	0.00	172.75	172.75	0.00	172.75	140.00	0.00	140.00
(e) TEC	0.00	28.55	28.55	0.00	28.70	28.70	0.00	33.75	33.75
(f) TERM Cells	0.00	57.90	57.90	0.00	60.17	60.17	0.00	67.37	67.37
(g) Telecom Testing & Security Certification Centre	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(f) Tribal Area Sub-Plan (TSP)	2.25	0.00	2.25	2.25	0.00	2.25	0.00	0.00	0.00
(g) Controller of Communication Accounts	0.00	100.19	100.19	0.00	89.34	89.34	0.00	106.95	106.95
Total -MH 3451	**175.00**	**302.15**	**477.15**	**175.00**	**378.40**	**553.40**	**140.00**	**329.02**	**469.02**
MH 2071 – Pension									
Pension	0.00	6386.00	6386.00	0.00	6386.00	6386.00	0.00	6833.02	6833.02
MH 3275 –Other Communications Services:									

(a) Wireless Planning and Co-ordination	1.90	8.53	10.43	0.95	6.60	7.55	0.50	9.39	9.89
(b) Wireless Monitoring Services	1.55	31.09	32.64	1.00	23.80	24.80	1.50	26.47	27.97
(c) International Co-operation (ITU, APT, CTO)	0.00	27.24	27.24	0.00	23.25	23.25	0.00	27.39	27.39
(d) Transfer to Telecom Authority of India General Fund	40.00	58.00	98.00	30.00	41.50	71.50	40.00	50.00	90.00
(e) Telecom Dispute Settlement and Appellate Tribunal	1.55	13.05	14.60	1.00	10.10	11.10	1.55	13.36	14.91
(f) Financial reliefs to ITI Limited	0.00	0.00	0.00	0.00	0.00	0.00	0.00	150.00	150.00
(g) Compensation to I.T.I	0.00	6.00	6.00	0.00	170.00	170.00	0.00	5.98	5.98
(h) Transfer to USO Fund	3537.00	0.00	3537.00	2086.98	0.00	2086.98	2400.00	0.00	2400.00
(i) USOF-Compensation to Service Providers	3159.00	0.00	3159.00	1855.26	0.00	1855.26	2127.00	0.00	2127.00
(j) Technology Development & Investment Promotion	1.00	0.00	10.43	0.50	0.00	0.50	1.90	0.00	1.90
(J) Human Resource Management for IP&TAF Service.	15.00	0.00	15.00	3.00	0.00	3.00	9.00	0.00	9.00
(k) Tribal Area Sub-Plan	0.00	0.00	0.00	5.22	0.00	5.22	13.00	0.00	13.00
(l)Refund of Upfront charges of BWA Spectrum in respect of BSNL	0.00	100.00	100.00	0.00	100.00	100.00	0.00	830.00	830.00

(m)Payment of interest on Bonds issued by MTNL	0.00	0.00	0.00	0.00	72.42	72.42	0.00	0.01	0.01
(n)Financial support to MTNL (MAT)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01
(o) Provision of High speed Brod band connection with Vi-Fi facility in MP House New Delhi (FFTH)	0.00	0.00	0.00	6.00	0.00	6.00	37.00	0.00	37.00
Total - MH 3275	**6757.00**	**6629.91**	**13396.34**	**3989.91**	**6733.67**	**10823.58**	**4631.45**	**7945.63**	**12577.08**
MH 2552 -Provision for North East Region	403.00	0.00	403.00	251.50	0.00	251.50	260.00	0.00	260.00
Total - Revenue Section	**7335.00**	**6932.06**	**14267.06**	**4416.41**	**7212.07**	**11628.48**	**5009.45**	**8274.65**	**13284.10**

	BE 2014-15			RE 2014-15			BE 2015-16		
	Plan	Non-Plan	Total	Plan	Non-Plan	Total	Plan	Non-Plan	Total
Capital Section:									
MH 5275 - Capital Outlay on Other Communication Services									
(a) TEC	13.00	0.00	13.00	2.00	0.00	2.00	4.95	0.00	4.95
(b) WPC	0.50	0.00	0.50	0.05	0.00	0.05	0.16	0.00	0.16
(c) WMO	42.45	0.00	42.45	4.00	0.00	3.90	15.00	0.00	15.00
(d) OFC Net work for Defence Services	2760.00	0.00	2760.00	385.00	0.00	385.00	2150.00	0.00	2150.00
(e) Physical Infrastructure for NICF	68.05	0.00	68.05	2.00	0.00	2.00	18.39	0.00	18.39
(f) Investment to Hemisphere Properties India Ltd (HPIL)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(g) Microwave Link between Champai and Zokhawthar	2.00	0.00	2.00	2.00	0.00	2.00	2.00	0.00	2.00
Undersea Cabling between main land and Andaman Nicobar	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Establishment of Satellite Gateway assistance to BSNL	5.00	0.00	5.00	5.00	0.00	5.00	40.00	0.00	40.00
North East project executed by BSNL with Govt. support	0.00	0.00	0.00	6.00	0.00	6.00	10.00	0.00	10.00

Construction of New DoT Building	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	25.00
Total - MH - 5275	**2892.00**	**0.00**	**2892.00**	**407.05**	**0.00**	**407.05**	**2266.50**	**0.00**	**2266.50**
4859 I T I Revival (Equity Investment)	460.00	0.00	460.00	192.00	0.00	192.00	50.00	0.00	50.00
MH-4859 Infusion equity to TCIL	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
MH- 6859 - Loans to I.T.I Ltd	1.00	96.00	97.00	0.00	300.00	300.00	0.00	0.00	0.00
MH- 6859- Loans to TCIL	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
M H 7275 Loans to Hemisphere Properties India Ltd (HPIL)	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	347.00	0.00	347.00	40.00	0.00	40.00	250.00	0.00	260.00
Total - Capital Section	**810.00**	**96.00**	**906.00**	**234.00**	**300.00**	**534.00**	**302.00**	**0.00**	**302.00**
Total Telecommunications Services	**11037.00**	**7028.06**	**18065.06**	**5057.46**	**7512.07**	**12377.53**	**7599.95**	**8274.65**	**15834.60**

CHAPTER – VI

REVIEW OF PERFORMANCE OF STATUTORY AND AUTONOMOUS BODIES

6.1. Telecom Regulatory Authority of India (TRAI)

Actual performance for the year 2013-14

Under 'Plan' budget, TRAI is pursuing two schemes namely (A) The Institutional Capacity Building Project (ICBP) and (B) Purchase of Land and Building of TRAI Office. As per the information received from DoT, vide letter dated 22nd August 2014, a sum of Rs 22.00 Crore was allocated for Annual Plan 2013-14. The total expenditure under Plan for the financial year 2013-14 was Rs. 10.40 Crore.

Scheme wise details are as under:

A. The Institutional Capacity Building Project (ICBP) is being carried out as a 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 regulatory issues.

The Activities conducted during the financial year 2013-14 are as below:

6.1.1 Regional Offices (ROs) of TRAI

(i) **Status of TRAI ROs:** Out of 11 (Eleven) Regional offices of TRAI approved by the Authority as a part of the Institutional Capacity Building Project of TRAI under Plan Fund for financial year 2012-13 and 2013-14, 9 (Nine) Regional offices were opened and functioned at Guwahati, Kolkata, Patna, Bhopal, Chandigarh, Jaipur, Bangalore, Hyderabad and Mumbai.

(ii) **Review of performance of ROs:** The Authority on review of the performances of the ROs of TRAI operating under Pilot Project decided the closure of 5 (five) ROs of TRAI located at Patna, Mumbai, Guwahati, Lucknow and Chandigarh with effect from 31st March, 2014. Accordingly, necessary orders for closure of 5 ROs at Patna, Mumbai, Guwahati, Lucknow and Chandigarh w.e.f. 31st March 2014 were issued and 8 (Eight) officers/officials posted in these ROs were relieved of their duties in TRAI w.e.f. 31st March 2014 (A/N).

6.1.2 Engagement of agency for Call Data Record (CDR) work

The final report submitted by the hired agency 'M/s Sanjay Gupta & Associates', has been accepted by the Authority and subsequently filed in Hon'ble Supreme Court on 22nd October 2013.

6.1.3 (i)Audit and Assessment of Quality of Service

(ii) Customer Satisfaction Survey

The following agencies were awarded the Audit work and Survey:

1. M/s Mott Mac Donald – Survey
2. M/s IMRB – Survey
3. M/s VOICE - Survey

4. M/s CS Datamation – Audit

5. M/s TUV South Asia – Audit

6. M/s IMRB – Audit

The survey works for the first half yearly period was completed and a press release in this regard was issued on 30th January 2014. The audit work upto December 2013 was also completed. Press release of audit findings were issued on 1st April 2014 and uploaded on TRAI website.

6.1.4 Development of MIS application software for online data collection and report generation

The purchase order was issued in April 2012. Phase-I of the project was completed and project became live from 01st January 2014. Training for SPs as well as TRAI's officers was also imparted.

6.1.5 Intranet in TRAI

Intranet was made functional and feedback from divisions was called to further improve the functioning of the intranet.

6.1.6 MTNL 4 MBPs Leased Line connection

Leased line was working.

6.1.7 Engagement of consultant for Study of Beta of Telecom Service sector and market rate of return (F&EA)

The consultant, M/s NIBM Pune, submitted its final report on 24th July 2012, which was accepted by the Authority. As per TOR, the consultant was also required to update the calculations on quarterly basis for a period of one year. The consultant submitted the updated calculations for quarter ending March 2012 (1st updation) on 29th January 2013 and for QE June 2012 (2nd Updation) on 21st May 2013.

6.1.8 Visit cum Study tour/ International Trainings/Workshops/Seminars etc. during the period is detailed at Annexure-(1)

The second project 'Purchase of Land and Building for TRAI' is aimed at obtaining own office premises. The Status report for financial year 2013-14, is as under:

Secretary, TRAI wrote a DO letter dated 23rd August 2013 to CMD, M/s NBCC, New Delhi for getting allocation of about 100 Thousand square feet of covered area. No response was received during the reporting period. Since, the land was not allotted to TRAI, no physical work could be undertaken.

6.1.9 Performance for the first 9 (Nine) months of the year 2014-15

Under 'Plan' Budget, TRAI is pursuing Two Schemes namely (i) The Institutional Capacity Building Project (ICBP) and (ii) Purchase of Land and Building of TRAI Office. An allocation of Rs.40.00 Crore has been made at BE stage as intimated by DoT vide letter dated 22nd August 2014. The total expenditure under 'Plan' Head till 31st December 2014 is Rs. 11.06 Crore.

The Scheme wise physical performance is as under:

The Institutional Capacity Building Project (ICBP) is being carried out as a 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 regulatory issues.

The Activities conducted during the first 9 (Nine) months of financial year 2014-15 are as below:

Regional Offices of TRAI

Extension of pilot project for one year: The Authority decided for continuation of the following 6 (six) Regional Offices for a further period of one year i.e. from 1st April, 2014 to 31st March, 2015 with revised license areas as under:-

Sl. No.	Location of the 6 TRAI ROs	License Service Areas covered by each Regional Offices
1.	Kolkata	West Bengal, Kolkata, North East, Assam, Bihar
2.	Bengaluru	Karnataka, Kerala, Maharashtra, Mumbai
3.	Hyderabad	Andhra Pradesh, Tamilnadu including Chennai, Orissa
4.	Bhopal	Madhya Pradesh, UP (East), UP(West)
5.	Jaipur	Rajasthan, Himachal Pradesh, Haryana, Jammu & Kashmir, Punjab, Gujarat
6.	Delhi	Delhi

- **Survey of QoS**

- **Audit and Assessment of Quality of Service**

TRAI has engaged independent agencies for auditing and assessing the performance of service providers on quality of service and also for assessing customer perception of service through survey.

The audit work has been awarded to M/s IMRB, M/s TUV & SUD and M/s CS Datamation. The audit reports are uploaded on the website. The audit work for the period January to March, April to June 2014 and July to September 2014 was carried out and the same is uploaded on the website.

The survey work was awarded to M/s VOICE, Mott Mac Donald and IMRB. The survey reports are uploaded on the website. The Customer Satisfaction Survey for the period October 2013 to March 2014 (Half yearly) was carried out and the same is also uploaded on the website of TRAI.

Workshop /Seminar

Various Seminars and Workshops on Regulatory issues were organised during the first 9 months of the financial year 2013-14 (i.e. from 1st April to 31st December 2014).

Customer Education Programme
The draft advertisement is under finalization.

Field trial/ Testing/ Experimenting/ Pilot Project on Random Real time Monitoring
Pilot drive test on SSA basis completed within the framework of audit and assessment of QoS by independent agencies.

Telecom Customer Complaint Mechanism System
The project of TCCMS was completed on 31st July 2014.

Consultancy on 'Next Generation Network'
Consultation paper was released on 30th June 2014. Open House Dissucssion (OHD) on Consultation Paper was held on 2nd December 2014.

Local Area Network (LAN) system in TRAI
Passive Network elements have been installed and further works are under progress.

Procurement of Cyberroam (UTM)
Purchase order has been placed with NICSI and Amount has been released to NICSI.

MIS Project (Colation charges) & MIS-Hardware Equipments
Modifications suggested by the divisions are being incorporated.

Open House Discussions (OHD)

Consultation Papers on various Regulatory were published and Open House Discussions on those issues were held during the report period.

Engagement of consultant for Study of Beta of Telecom Service sector and market rate of return

The consultant, M/s NIBM Pune submitted the updated calculations for the quarter ending September 2012 (3rd updation) on 25th April 2014 and for QE December 2012 (4th and last updation) on 9th May 2014. All quarterly updations have been accepted by the Authority.

The final payment has been made to the consultant after deducting TDS on 13th October 2014.

Visit cum Study tour/ International Trainings/Workshops/Seminars etc. during the period is detailed at **Annexure-(II)**

The second project 'Purchase of Land and Building for TRAI' is aimed at obtaining own office premises. The Status report for the period is as under:

Efforts are being made for obtaining land or office space for TRAI Office / Building. In this connection, Secretary, TRAI wrote a DO letter to Chairman, Telecom Commission (TC) & Secretary (T), Ministry of Communication & IT, DoT, on 3rd December 2014 for allocation of about one acre

area in the premises of Central Telegraph Office, BSNL, Netaji Nagar, New Delhi or Kidwai Bhawan building presently in the possession of MTNL, New Delhi, for construction of own building.

6.1.10 The target performance during 2015-16

TRAI is pursuing two projects under Plan Expenditure, namely, (i) Institutional Capacity Building Project of TRAI consisting of consultancy Studies and Trainings of TRAI Officials and (ii) Purchase of Land and Building for TRAI. A sum of Rs.520.00 (Five Hundred and Twenty) Crores has been proposed by TRAI under Plan Expenditure for the year 2014-15 (RE) which includes Rs. 20 (Twenty) crores for the 'Institutional Capacity Building Project' and Rs.500 (Five Hundred) Crores for 'Purchase of Land and Building of TRAI'.

6.1.11 Details of mechanism put in place to monitor physical and financial progress

The Physical and Financial progress of the 'Institutional Capacity Building Project' is monitored by Secretary, TRAI. Meetings are taken by Secretary, TRAI at periodic intervals to monitor the progress of this project. The project is well formulated and the progress of the project is reported periodically to Department of Telecommunications.

Institutional Capacity Building Project of TRAI
Details of International Trainings/ Visits of TRAI officials, under Plan Fund
(1st April 2013 to 31st March 2014) Annexure-(I)

Sl.	Details of Visit	Place of Visit	No. of Nominations	Date
1.	ITU-D Study Group 2 Rapporteur Group for Question 26/2	Geneva	Advisor	2nd April 2013
2	ITU Regional Development Forum (RDF), 29 April 2013 and ITU Regional Preparatory Meeting (RPM) for the Asia Pacific Region	Cambodia	Secretary & Principal Advisor	30 April – 2 May 2013
3.	14 Meeting of SATRC by Asia Pacific Telecommunity (APT)	Maldives	Member	8-10 May 2013
4	14 Meeting of SATRC by Asia Pacific Telecommunity (APT)	Maldives	Joint Advisor	8-10 May 2013
5	Participation as Expert in ITU ASP CoE Training on Infrastructure Sharing Models & Practices	Bangkok	Joint Advisor	20-23 May 2013
6	Second GSMA Mobile Asia Expo	Shanghai, China	Member	26-28 June 2013
7	Second GSMA Mobile Asia Expo	Shanghai, China	Principal Advisor & Joint Advisor	26-28 June 2013
8	13 GSR Meeting	Warsaw, Poland	Chairman & Member	3-5 July 2013
9.	13 GSR Meeting	Warsaw, Poland	Principal Advisor	3-5 July 2013
10.	SATRC Workshop on Policy, Regulation and Services,	Kathmandu, Nepal	Principal Advisor & Joint Advisor	30 July - 1 Aug 2013
11	The Merril Lynch Investor Forum, 20-21 Aug13 in Hong Kong & 22-23 Aug 13 in Singapore	Hong Kong & Singapore	Principal Advisor	20-23 Aug 2013

12	Final meeting of Study Group-2 Management Team on 15th September 2013 and ITU-D Study Group 2 Rapporteur Group Meeting for question 26/2 from 16-20 Sept 2013	Geneva, Switzerland	Advisor	15-20 Sept 2013
13	Institutional Investor Conference on 4th Oct., IIC Annual International Regulators Forum from 7-8th Oct. & meeting with Chairperson Ofcom.	London	Chairman	3-9 Oct, 2013
14	3rd ITU Regulator Roundtable	Seoul Korea	Member	14-15 Oct., 2013
15	m-Powering Development Advisory Board Meeting & meeting with Directors (Radiocommunication & TSB) of International Telecommunication Union	Geneva	Chairman	15-16 Oct., 2013
16	The Merril Lynch Investor Forum	Korea	Advisor	16-18 Oct., 2013
17	ITU International Training Program	Korea	Advisor	16-18 Oct., 2013
18	CASBAA Convention 2013	Hong Kong	Advisor	21-24 Oct., 2013
9	3rd APT Preparatory Meeting for WTDC-14	Australia	Principal Advisor	23-25 Oct., 2013
20	3rd APT Preparatory Meeting for WTDC-14	Australia	Advisor	23-25 Oct., 2013
21	37 Session of the Management Committee of the APT	Vientiane, Lao PDR	Advisor	5-8 Nov, 2013
22	Indo-US Regulatory Exchange Programme	Washigton DC, USA	Chairman	12-15 Nov, 2013
23	ITU Telecom World 2013	Bangkok, Thailand	Member	19-21 Nov, 2013
24	ITU Telecommunication/ICT Indicators Symposium	Mexico	Member	4-6 December, 2013
25	ITU Telecommunication/ICT Indicators Symposium	Mexico	Principal Advisor	4-6 December, 2013
26	GSMA Mobile World Congress 2014	Barcelona, Spain	Member I & II	24-26 February, 2014
27	GSMA Mobile World Congress 2014	Barcelona, Spain	Advisor & Joint Advisor	24-26 February, 2014
28	APT Wireless Group (AWG-16)	Pattaya, Bangkok	2 Joint Advisors	18-21 March 2014
29	ITU Executive Strategic Dialogue on 29th March'14 and ITU WTDC-14 from 30th March to 1st April'14	Dubai, UAE	Secretary	29 March – 1st April 2014

Institutional Capacity Building Project of TRAI
Details of International Trainings/ Visits of TRAI officials & expenditure incurred under Plan Fund
(1st April 2014 to 31st December 2014) **Annexure (II)**

Sl.	Details of Visit	Place of Visit	No. of Nominations	Date
1	5th Annual Asia Pacific Operators Summit	Bali, Indonesia	Member & Advisor	22-24 April 2014
2.	NCTA's Cable Show 2014	Los Angeles CA, USA	Principal Advisor	29 April – 1 May 2014
3.	14th APT Policy and Regulatory Forum (Preparation for Ministers' Meeting) (PRF-14)	Pattaya, Thailand	Advisor	20-22 May 2014
4.	3rd APT Preparatory Meeting for PP-14 (PP14-3)	Kaula Lumpur, Malaysia	Advisor & Deputy Advisor	2-4 June 2014
5.	14 Global Symposium Regulators	Bahrain	Member, Principal Advisor & Advisor	2-5 June 2014
6.	APT Conference Preparatory Group for WRC-15 and meeting with MCMC, Malaysia	Australia & Malaysia	Secretary & Advisor	9-16 June 2014
7.	APT Workshop on Disaster Management Communications	Tokyo, Japan	Deputy Advisor	24-26 June 2014
8.	4th ITU-ACMA Asia-Pacific Regulators' Roundtable from 21-22 July 2014 and as a Speaker in the ITU-ACMA International Training Program from 23-25 July 2014 in Sydney, Australia	Sydney, Australia	Member & Advisor	21-25 July 2014
9	15th Meeting of the South Asian Telecommunications Regulators' Council (SATRC-15)	Paro, Bhutan	Member and Joint Advisor	05-07 August 2014
10	Strategic Costing and Business Planning for Quadplay	Bangkok, Thailand	Joint Advisor and SRO	13-22 August 2014
11	11th Asia-Pacific Telecommunication and ICT Development Forum (ADF-11) on 8-9 September, 2014 and Asia-Pacific ICT Ministerial Meeting on "Building Smart Digital Economy through ICT"	Brunei Darussalam	Member and Secretary	08-11 September, 2014
12	ITU Asia Pacific Centre of Excellence training on "Interactive Multimedia Services and Pay TV"	Hanoi, Vietnam	Principal Advisor	09-10 September, 2014

13	ITU 4th Green Standards Week from	Beijing, China	Advisor and Joint Advisor	22-26 September 2014
14	ITU 19th Meeting of Telecommunication Development Advisory Group (TDAG)	Geneva	Member and Advisor	29 Sept – 01 October, 2014
15	International Institute of Communications' (IIC) International Regulators Forum on 6-7 October and 45th Annual Conference on 8-9 October, 2014	Vienna, Austria	Chairman	06-09 October, 2014
16	ITU Plenipotentiary Conference (PP-14)	Busan, Korea	Advisor and Joint Advisor	20-24 Oct., 2014
17	Cable and Satellite Broadcasting Association of Asia (CASBAA) Convention 2014 and associated Policy Roundtable in Hong Kong.	Hong kong	Advisor	26-29 Oct., 2014
18	Foreign Institutional Investors Meet in Hong Kong.	Hong Kong	Chairman and Advisor	27-28 Oct., 2014
19	sixth GSMA Mobile Money for the Unbanked (MMU) Leadership Forum and in the breakout and case studies sessions to be held prior to the Leadership Forum	Cape Town, South Africa	Member and Advisor	5-7 Nov, 2014
20	Third Meeting of the m-Powering Development Initiative Advisory Board on 6th December 2014 and ITU Telecom World 2014 from 7-10 December 2014,	Doha, Qatar	Chairman, Advisor and Joint Advisor	07-09 Dec-14
21	ITU-T Study Group Meeting	Kochi, Kerala	Joint Advisors	8-11 Dec., 2014
22	ITU-T Study Group Meeting	Kochi, Kerala	Advisors	11-15 Dec., 2014
23	ITU-T Study Group Meeting	Kochi, Kerala	Advisors and Deputy Advisor	16-18 Dec., 2014

Appendix

Proposed Consultancies/Studies/Surveys etc. for the year 2015-16

1. Consumer perception survey on Implementation of digital addressable Cable TV System in India and related aspects

2. Consumer perception survey of the Quality of Service (QoS) being offered by the DTH Operators

3. Research / trial / study of TV White Space.

4. Study of mechanism for spectrum audit.

5. International Trainings / Sysmosium on ITC issues in 'Smart City'

6. Seminar / Workshop / Study tour relating to development of smart cities.

7. Open House Discussions on various issues.

8. Studies through consultant / outside agencies for cost modeling under Next generation Network (NGN) environment.

9. Visit cum Study tour to the office of Telecom Regulator (and their telecom operators) of countries such as Japan, Egypt, Greece, Brazil etc. with whom Memorandum of Understandings (MoUs) have been signed.

10. Organizing joint seminar/workshop with other countries/organizations as a follow up of MoU signed by TRAI.

11. Organizing 16th South Asian Telecommunication Regulatory Council Meeting in India.

12. Annual ITU-D membership contribution

13. Survey of Quality of Service

14. Audit and Assesment of Quality of Service
15. Customer Education Programme

16. Field Trial/Testing/Experimenting/Pilot Project on Random Real time Monitoring

17. Establishment of new DR Site for NCCPR Project

18. Telecom Customers Complaint Monitoring System

19. Annual Maintanance Charges for NCCP Portal

20. Annual Maintanance Charges for NIC Server

21. Internation and Domestic training for Institutional Capacity Building

6.2. 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 actual physical performance in 2013-14:- As per annexure (A)

ii) Performance in the first 9 months of the year 2014-15:- As per annexure (B) Physical

Actual Financial performance:

(Rs in cr)

Sl No	Programme	Annual Plan 2014-15(B.E.)	Cumulative Progress up to Dec. 2014
1	Upgradation of TDSAT reference Library	0.10	0.0292
2	Study tour for familiarization of the Telecom regulatory environment/Training	1.00	0.1332
3	Holding of Seminar on Telecom Disputes Settlement	0.45	0.1134
	TOTAL=	**1.55**	**0.2758**

Reason for short fall: - Post one Member lying vacant from 29/07/2011 till date. The post of Registrar, Joint Advisor and Director are also lying vacant during the current Financial Year.

iii) The target performance during 2015-16:- The information for the year 2015-16 has been furnished in the prescribed format as desired. (Annexure U)

iv) Details of the mechanism put in place to monitor physical and financial progress:
Physical and financial progress monitored constantly and systems are in place to detect possible slippages.

6.2 Centre for Development of Telematics (C-DOT)

C-DOT focuses on research and development in the technology areas of optical, broadband wireless, active sharing wireless infrastructure, next generation packet, and software-intensive applications like network management etc. to provide technology for high-speed communication. Number of technology products has been developed and successfully field tried with technology approval for introduction in the network.

Communication and security research and monitoring

The progress under this development scheme includes development, enhancements, software customization and progressive roll-out of the technology in the field.

Major development activities and enhancements completed include Centralized Monitoring System (CMS) Law Enforcement Monitoring Function (LEMF), LEMF alarm viewer, helpdesk, ISDN PRI LEMF, Intelligence Manager for LEMF, encryption-decryption tool, etc.

Technology roll-out for CMS commenced and progressively completed various activities such as data centre build-up up to 70% capacity, ISF installation in 8 LSAs integrated with pilot RMCs, installation for 4 ILDs. Technical evaluation of the tender also started for main CMC infrastructure installation up to 60% capacity, finalization of RMC-DC layout for 17 LSAs, etc.

Rural technology

GPRS functionality implemented over SG-RAN (Shared GSM Radio Access Network) and also integrated in the field release installed at Hosur, Tamil Nadu.

Broadband technology

Broadband technology development includes terabit router (commercial-grade multi-terabit routing system) and routing platform for the National Knowledge Network (NKN), required for building a high capacity network, addressing the application needs of Defence networks, Secure networks, NKN, etc.

The routing platform hardware for NKN was upgraded to achieve 600 Gbps throughput and field trial successfully completed at IIT, Kanpur and NTRO, Delhi. The activity for the multi-terabit router also progressed significantly with completion of design of its hardware, terabit router software (developed for 1U-chasis) adaptation for multi-terabit router, packet filtering feature implementation, and software adaptation for IMS (IP-Multi Media System, etc.

Next generation mobile technology

Activities on next generation mobile technology comprise of development for Long Term Evolution-Advance (LTE-A), 4th generation mobile technology and fixed-and-mobile converged platform for delivery of services to fixed and mobile subscribers.

LTE-A technology development activities accomplished during the year include integration and testing of femto system with Evolved Packet Core (EPC) from other vendors, femto solution demonstration for voice, data and video services, and proto-type femto eNodeB system piloting.

Besides, development also completed for core network platform for fixed and mobile convergence. This platform is ready for field trial with softswitch and access node suitably enhanced to support copper access node.

Carrier networks transport technologies for transport and access Networks

Activities on carrier networks transport technologies are planned to address the needs of the emerging applications that are data-centric, demanding high bandwidth, large data rate for flow of information, and require transport/backhaul, metro/aggregation, and access networks to evolve with upcoming technology trends.

The technology development is going on for Optical Aggregation and Access System (OAAS), with a focus on next generation PON - 32G PON technology based on WDM. Under the OAAS project, the development was completed for some GPON variants, namely, Optical Network Termination (ONT-R), Bhawan Damini 3 (BD-3) (OLT for residential use) , Optical Time Domain Reflectometer (OTDR), etc, catering to various requirements, like, ring topology, fibre cut localization, residential building respectively, etc. ToT agreements were signed with 6 manufacturers for the GPON variants.

Technology development for Optical Core Network (OCN) - a 100G DWDM transport network system - is also in progress. The achievements include completion of system specifications and architecture design. Besides, specifications were also finalized for major components, like, multiplexers, de-multiplexers, amplifiers, etc. Controller card hardware design completed and software design is in-progress. Hardware testing of 100G multiplex-ponder card is ongoing.

Telecom services and applications

This development scheme focuses on software intensive services and applications catering to changing technology trends towards convergence of applications, networks, contents and value-added services creating differentiation.

UNMS (Unified network Management system) software release has been integrated with TAMS (Telecom asset Management System) and deployed as pilot in the NOFN trial block. The UNMS release for Proof-of-Concept (PoC) demonstration on Indian Army's Network for Spectrum (NFS) has been partially made ready with the completion of the application module.

Technology development for Customized Platform for Rural Services (CPRS) is also in progress and during the year, client hardware system engineering has been completed. Services and features, like, user feedback collection, e-notice board, etc, have been completed and demonstrated on pilot site.

Power efficient and Green telecom technology

Technology development for high efficiency RF amplification technology to improve the efficiency of legacy power amplifier used in existing and future BTS (such as in LTE) especially

in the remote/rural areas, has been completed. System integration and testing activities have been completed. Power amplifiers of 120W for 1800 MHz and 900 MHz for GSM BTS have been developed and undergone field trial.

Secure wireless and wire-line networks

Activities under this technology scheme aims at creating intra and inter department secure communication network within various ministries of the government. Under the scheme, project WiPS (Wireless Phone Secure) is ongoing for design and development of a secure mobile wireless network, including development of secure handset using standard wireless technologies, like, 3G, WiFi. During the year, integration testing of secure table (ver.1) has been completed with C-DOT's secure core network and its field testing also completed. Further, development also completed for client and core software for WiPS as well as integration of hardware and software.

Enhancements, new features, upgradations, adaptations and technical support for developed technologies including the North-East program

The existing developed/deployed technologies in the network are being constantly enhanced through value additions, technology upgradations, bug-fixes, alternative solutions against component obsolescence, etc. Besides, field/ pilot trials are also being carried out at multiple locations to fulfill the requirements of technology applications for various networks. Some of the technologies requiring regular support include Main Automatic Exchange (MAX), Asynchronous Transfer Mode (ATM), Shared GSM Radio Access Network (SG-RAN), Next Generation MAX (MAX-NG), IP Multimedia System (IMS)-compliant MAX-NG, Gigabit Passive Optical Network (GPON), Broadband Wireless Terminal (BBWT), Secure and Dedicated Communication Network (SDCN) and Network Management System (NMS). Accomplishments on these are:

- SG-RAN system trials were completed at Sakalwara with BSNL, and trials with 3 operators (Tata, Reliance and BSNL) are ongoing at Hosur. GPRS and EDGE functionalities also integrated in base system.

  SG-RAN technology has also been enhanced with design and development of a small outdoor poll-mounted BTS and a small 10W Tower Mounted Amplifier (TMA) to address uncovered areas of GSM network for low density and small count subscribers. Testing for these elements are in-progress. ToT support was provided to BEL for assembly of 5 large capacity systems. Discussions were also initiated with ITI for manufacturing.
- 164 BBWT systems were installed in Parwada, Panisagar and Arain blocks of NOFN. Trials were completed for IISc and MSRIT for campus applications. Pilot trial of CORAL-3P system has been successfully completed in C-DOT campus.
- SDCN VoIP phone field issues related to heating up of earphone, receiver signal strength, etc, have been resolved.
- Regular on-site and off-site technology support is being provided.

- Requirements specifications and architecture design were completed for NOFN DCN (Data Communication network) NMS. Integration of NOFN network elements with NOFN GPON EMS was successfully completed for IPv6 support. Tender for NOFN NMS test-bed has been floated and the test-bed is ready. Technology evaluation for NOC setup at Delhi and Bangalore has been completed.
- Integration of MAX-NG system and BSNL's Clarity system for provisioning has been successfully completed. The MAX-NG subscriber provisioning at Katpadi is now done through Clarity system. PoC for the inter-operational testing between C-DOT's soft switch and BSNL's IP-TAX has been done successfully at Gurgaon. Testing of lawful interception has been successfully demonstrated to BSNL AT team. Inter-working testing between C-DOT's SSP and Tekelec's SSTP server for the Mobile Number Portability (MNP) over IP has been completed.
- Technologies like MAX-NG, IMS, BBWT, etc, have been proven in field and are ready for roll-out. Activities accomplished for technology roll-outs include:
  - Completed tendering for the purchase of for MAX-NG component, core network site preparation, receipt of advance P.O for MAX-NG roll-out;
  - C-DOT NGN core operational in MTNL Delhi and Mumbai networks, migration of some IN services to NGN-IN services, voice over FTTH services commercially operational in MTNL network (Delhi and Mumbai) based on C-DOT NGN solution;
  - IP-MLLN in MTNL network, acceptance testing**.**

Enabling technologies and telecom network

As per the MoU signed with USOFA (Universal Service Obligation Fund Administration), activities completed include tentative nos. of BTSs required to cover the uncovered part of the country, technical specs. for the infrastructure required for provisioning of cellular mobile coverage to uncovered villages, demographic-based statistical reports with details e.g. total no. of villages covered, their population, etc.

Process improvement

Process implementation state, successfully appraised for CMMI Maturity Level 3 (ML3) in FY2011-2012, has been sustained through continuing with the process practices, process improvements and internal QA audits. During FY 2013-2014, 7 cycles of internal audits were conducted.
Meanwhile, definition of high maturity (CMMI L4/5) processes and generations of process performance baselines and models have been done, and same had also been under practice - for appraisal for CMMI ML5 in FY 2014-2015.

IPRs, papers presentations and publications

Intellectual Property Asset	No.	Subject invention	
Patents filed	**1**	**Apparatus capable of controlling interference in densely packed autonomous, large area WiFi radio networks.**	**Patent filing in process**
	2	**Efficient Marker based Gesture Recognition**	**Patent filing in process**
Papers presented in the national and international conferences and seminars	**1**	**Java Card for PayTV Application: International Journal of Computer Science and Information Security (IJCSIS), Jun-2013.**	
	2	**Efficient Marker Based Gesture Recognition technique: International Journal of Computer Applications (IJCA), Nov-2013.**	

Business promotion

C-DOT celebrated its foundation day on 23-Aug-2013, followed by a technical symposium on 24-Aug-2013 and showcased its state-of-the-art technologies. Significant efforts were made for promoting C-DOT technologies, which include trials, exhibitions and demonstration of technologies in exhibitions, seminar, etc. These efforts resulted in following major accomplishments during the period:

- C-DOT received order for supply of 168 BBWT systems from M/s BSNL to provide horizontal wireless extension in NOFN project.
- BBWT technology also tried in NDMC Delhi, for wireless networking of its IT infrastructure. Efforts are also ongoing in providing last mile wireless connectivity for animal husbandry department, government of Madhya Pradesh.
- C-DOT signed agreement with DEAL Dehradun, under DRDO, for joint R&D development of satellite-based hub baseband development.
- Approval received for trial of GPON technology at Military College of Telecommunication Engineers (MCTE) at MHOW, Indore. Further, Navy has also shown keen interest in the trial of C-DOT GPON and BBWT technologies for onboard communication in ships.

MoUs, NDAs, ToT agreements

The agreements signed for technology commercialization, technology trials, know-how/ knowledge sharing during the period include:

- MoU signed with BSNL for RMC Data Centre Infrastructural works.

- MoU signed with Centre for Artificial Intelligence and Robotics (CAIR) DRDO, for IP Multimedia System (IMS) integration with CMS.
- MoU signed with BSNL for technical support for C-DOT DSS in BSNL network.

Campus infrastructure

Construction activity commencement is awaiting statutory approval.

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Activities under this technology scheme aims at creating intra and inter department secure communication network within various ministries of the government. Under the scheme, project WiPS (Wireless Phone Secure) is ongoing for design and development of a secure mobile wireless network, including development of secure handset using standard wireless technologies, like, 3G, WiFi. During the year, integration testing of secure table (ver.1) has been completed with C-DOT's secure core network and its field testing also completed. Further, development also completed for client and core software for WiPS as well as integration of hardware and software.

Enhancements, new features, upgradations, adaptations and technical support for developed technologies including the North-East program

The existing developed/deployed technologies in the network are being constantly enhanced through value additions, technology upgradations, bug-fixes, alternative solutions against component obsolescence, etc. Besides, field/ pilot trials are also being carried out at multiple locations to fulfill the requirements of technology applications for various networks. Some of the technologies requiring regular support include Main Automatic Exchange (MAX), Asynchronous Transfer Mode (ATM), Shared GSM Radio Access Network (SG-RAN), Next Generation MAX (MAX-NG), IP Multimedia System (IMS)-compliant MAX-NG, Gigabit Passive Optical Network (GPON), Broadband Wireless Terminal (BBWT), Secure and Dedicated Communication Network (SDCN) and Network Management System (NMS). Accomplishments on these are:

- SG-RAN system trials were completed at Sakalwara with BSNL, and trials with 3 operators (Tata, Reliance and BSNL) are ongoing at Hosur. GPRS and EDGE functionalities also integrated in base system.

  SG-RAN technology has also been enhanced with design and development of a small outdoor poll-mounted BTS and a small 10W Tower Mounted Amplifier (TMA) to address uncovered areas of GSM network for low density and small count subscribers. Testing for these elements are in-progress. ToT support was provided to BEL for assembly of 5 large capacity systems. Discussions were also initiated with ITI for manufacturing.
- 164 BBWT systems were installed in Parwada, Panisagar and Arain blocks of NOFN. Trials were completed for IISc and MSRIT for campus applications. Pilot trial of CORAL-3P system has been successfully completed in C-DOT campus.
- SDCN VoIP phone field issues related to heating up of earphone, receiver signal strength, etc, have been resolved.
- Regular on-site and off-site technology support is being provided.
- Requirements specifications and architecture design were completed for NOFN DCN (Data Communication network) NMS. Integration of NOFN network elements with NOFN GPON EMS was successfully completed for IPv6 support. Tender for NOFN NMS test-bed has been floated and the test-bed is ready. Technology evaluation for NOC setup at Delhi and Bangalore has been completed.
- Integration of MAX-NG system and BSNL's Clarity system for provisioning has been successfully completed. The MAX-NG subscriber provisioning at Katpadi is now done through Clarity system. PoC for the inter-operational testing between C-DOT's soft switch and BSNL's IP-TAX has been done successfully at Gurgaon. Testing of lawful interception has been successfully demonstrated to BSNL AT team. Inter-working testing between C-DOT's SSP and Tekelec's SSTP server for the Mobile Number Portability (MNP) over IP has been completed.
- Technologies like MAX-NG, IMS, BBWT, etc, have been proven in field and are ready for roll-out. Activities accomplished for technology roll-outs include:
  - Completed tendering for the purchase of for MAX-NG component, core network site preparation, receipt of advance P.O for MAX-NG roll-out;
  - C-DOT NGN core operational in MTNL Delhi and Mumbai networks, migration of some IN services to NGN-IN services, voice over FTTH services commercially operational in MTNL network (Delhi and Mumbai) based on C-DOT NGN solution;
  - IP-MLLN in MTNL network, acceptance testing.

Enabling technologies and telecom network

As per the MoU signed with USOFA (Universal Service Obligation Fund Administration), activities completed include tentative nos. of BTSs required to cover the uncovered part of the country, technical specs. for the infrastructure required for provisioning of cellular mobile coverage to uncovered villages, demographic-based statistical reports with details e.g. total no. of villages covered, their population, etc.

Process improvement

Process implementation state, successfully appraised for CMMI Maturity Level 3 (ML3) in FY2011-2012, has been sustained through continuing with the process practices, process improvements and internal QA audits. During FY 2013-2014, 7 cycles of internal audits were conducted.
Meanwhile, definition of high maturity (CMMI L4/5) processes and generations of process performance baselines and models have been done, and same had also been under practice - for appraisal for CMMI ML5 in FY 2014-2015.

IPRs, papers presentations and publications

Intellectual Property Asset	No.	Subject invention	
Patents filed	1	Apparatus capable of controlling interference in densely packed autonomous, large area WiFi radio networks.	Patent filing in process
	2	Efficient Marker based Gesture Recognition	Patent filing in process
Papers presented in the national and international conferences and seminars	1	Java Card for PayTV Application: International Journal of Computer Science and Information Security (IJCSIS), Jun-2013.	
	2	Efficient Marker Based Gesture Recognition technique: International Journal of Computer Applications (IJCA), Nov-2013.	

Business promotion

C-DOT celebrated its foundation day on 23-Aug-2013, followed by a technical symposium on 24-Aug-2013 and showcased its state-of-the-art technologies. Significant efforts were made for promoting C-DOT technologies, which include trials, exhibitions and demonstration of technologies in exhibitions, seminar, etc. These efforts resulted in following major accomplishments during the period:

- C-DOT received order for supply of 168 BBWT systems from M/s BSNL to provide horizontal wireless extension in NOFN project.
- BBWT technology also tried in NDMC Delhi, for wireless networking of its IT infrastructure. Efforts are also ongoing in providing last mile wireless connectivity for animal husbandry department, government of Madhya Pradesh.
- C-DOT signed agreement with DEAL Dehradun, under DRDO, for joint R&D development of satellite-based hub baseband development.

- Approval received for trial of GPON technology at Military College of Telecommunication Engineers (MCTE) at MHOW, Indore. Further, Navy has also shown keen interest in the trial of C-DOT GPON and BBWT technologies for onboard communication in ships.

MoUs, NDAs, ToT agreements

The agreements signed for technology commercialization, technology trials, know-how/ knowledge sharing during the period include:

- MoU signed with BSNL for RMC Data Centre Infrastructural works.
- MoU signed with Centre for Artificial Intelligence and Robotics (CAIR) DRDO, for IP Multimedia System (IMS) integration with CMS.
- MoU signed with BSNL for technical support for C-DOT DSS in BSNL network.

Campus infrastructure

Construction activity commencement is awaiting statutory approval.

Annexure –T

TELECOM REGULATORY AUTHORITY OF INDIA
Performance for the year 2013-14

(Rs in Crore)

Ref: 6.1.10

Sl. No.	Name of the Scheme / Programme	Objective / Outcome	Outlay 2013-14			Quantifiable deliverables / Physical outputs	Projected outcomes	Processes / Timelines	Remarks / Risk Factors
			4						
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
1.	Institutional Capacity Building Project	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	--	25.00 Crores	--	(a) Consultative Studies / Workshop on Regulatory issues. The list of proposed consultancies / Studies proposed to be taken is enclosed at Appendix	The proposed studies will help TRAI in formulating its Recommendations and in other Regulatory functions	To be completed during 2013-14	
						(b) Provision of training of TRAI official on technical and Regulatory issues	To meet the training needs of TRAI officials		
2.	Purchase of Land and Building (Capital) for TRAI Office	To obtain own office premises		500.00 crores	--				Funds available under 'TRAI General Fund' (a non-lapsable fund) are proposed to be utilized as and when the proposal materializes

Annexure-T

TELECOM REGULATORY AUTHORITY OF INDIA
Performance for the year 2014-15

(Rs in Crore)

Sl. No.	Name of the Scheme / Programme	Objective / Outcome	Outlay 2014-15			Quantifiable deliverables / Physical outputs	Projected outcomes	Processes/ Timelines	Remarks / Risk Factors
			4						
1	2	3	4(i)	4(ii)	4(iii)	5	6	7	8
1.	Institutional Capacity Building Project	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.	--	18.00 Crores	--	(a) Consultative Studies / Workshop on Regulatory issues.	The proposed studies will help TRAI in formulating its Recommendations and in other Regulatory functions.	To be completed during 2014-15.	
						(b) Provision of training of TRAI official on technical and Regulatory issues.	To meet the training needs of TRAI officials.		
2.	Purchase of Land and Building (Capital) for TRAI Office.	To obtain own office premises.		22.00 crores	--				**Under Annual Plan for the year 2014-15 (BE) TRAI has proposed an amount of Rs.500.00 crores for this scheme.** Funds available under 'TRAI General Fund' (a non-lapsable fund) are proposed to be utilized as and when the proposal materializes.
	Total			40.00 crores					

Annexure –U

TELECOM DISPUTES SETTLEMENT & APPELLATE TRIBUNAL
Performance for the year 2013-14

Ref: 6.2

(Rs in Crore)

Sl.No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2013-14 Plan Budget (R.E.)	Quantifiable Deliverables/ Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-03-2014	Remarks/Risk Factors
1	2	3	4	5	6	7	8
1	Upgradation of TDSAT Reference Library	Purchase of books and other related materials to strengthen the refrence Library.	0.08	Purchase of books and other related materials to strengthen the Library.	On going activity	Purchase of books and hardware/Software for upgradation of reference library	
2	Study tours for familiarising with the telecom regulatory environment/Training	Study tour by Hon'ble Chairperson & Members to various countries and training of officers of TDSAT on various subject on telecom regulation including dispute settlement.	0.90	Study tour by Hon'ble Chairperson & Members to various countries and training of officers of TDSAT on various subject on telecom regulation including dispute settlement.	On going activity	The Study tour of Senior officers of TDSAT to Geneva, Switerland, Warsaw, Poland and Barcelona, Spain were undertaken to hold meetings with various regulatory authorities and to study the telecom and broadcasting regulatory environment including settlement of disputes in these countries.	
3	Holding of Seminars on Telecom Disputes & Settlement.	Holding of domestic seminars on Telecom Disputes & Settlement in four cities in the country	0.30	Holding of domestic seminars on Telecom Disputes & Settlement in four cities in the country	On going activity	Seminar held at Delhi, Jaipur and Shimla have helped in generating awareness amongst stake holders about dispute settlement in telecom and broadcasting sector	
		TOTAL =	**1.28**				

Annexure –U

TELECOM DISPUTES SETTLEMENT & APPELLATE TRIBUNAL
Performance for the year 2014-15

(Rs in Crore)

Sl.No.	Name of Scheme/ Programme	Objective/Outcome	Outlay 2014-15 (B.E.)	Quantifiable Deliverables Physical Outputs	Processes/ Timelines	Achievements w.r.t Col (5) as on 31-12-2014	Remarks/Risk Factors
1	2	3	4	5	6	7	8
1	Upgradation of TDSAT Reference Library	Purchase of books to strengthen the Library.	0.10	Purchase of books to strengthen the reference library	Ongoing activity	Purchase of books and hardware/Software for upgradation of reference library	Reason for short fall :- Post of one Member lying vacant from 29/07/2011 till date. The post of Registrar, Joint Advisor and Director are also lying vacant during the current Financial Year.
2	Study tours for familiarising with the telecom regulatory environment/Training	Study tour by Hon'ble Chairperson & Members to various countries and training of officers of TDSAT on various subject on telecom regulation including dispute settlement.	1.00	Study tour by Hon'ble Chairperson & Members to various countries and training of officers of TDSAT on various subject on telecom regulation including dispute settlement.	Ongoing activity-	The Study tour of Senior officers of TDSAT to Shanghai, China, Stockholm, Sweden and Geneva, Switzerland were undertaken to hold meetings with various regulatory authorities and to study the telecom and broadcasting regulatory environment including settlement of disputes in these countries.	

3	Holding of Seminars on Telecom Disputes & Settlement.	Holding of domestic seminars on Telecom Disputes & Settlement in three cities in the country	0.45	Holding of domestic seminars on Telecom Disputes & Settlement in three cities in the country	Ongoing activity	Seminar held at Gangtok, Sikkim have helped in generating awareness amongst stake holders about dispute settlement in telecom and broadcasting sector	
		TOTAL =	**1.55**				

Annexure – V
Ref: 6.3

CENTRE FOR DEVELOPMENT OF TELEMATICS
Performance for the year 2014-15

(Rs in Crore)

Annual Plan (2014-15)										
Rs in crores		**Name of the Ministry/Department : Center for Development of Telematics (C-DOT)**								
		Statement of Outlays and Outcomes / Target for FY 2014-15								
Sl. No.	**Name of scheme / programme**	**Objective/ Outcome**	**Outlay 2014-15 (Proposed)**			**Quantifiable Deliverables/ Physical output of the project**	**Projected Outcome for the FY 2014-15**	**Process/ Timelines for the FY 2014-15**		**Remarks / Risk factors**
1	**2**	**3**	**4**							
			4(i)	**4(ii)**	**4(iii)**					
			Non Plan Budget	**Plan budget**	**Complimentary extra budgetary Resources**					
1	Communication security & research monitoring (CMS)	Research & Development for security management for Law Enforcement Agencies.		35.71		Centralized Monitoring System (CMS) - Implementation & Roll-out in the field : RMCs, ISFs, ILDs, Data Center, Transitory DR infrastructure and related IT equipment	CMS implementation & pan India roll-out • Main CMC infrastructure installation • ILDs and ISFs installation; • Installation & Integration of RMCs with their corresponding	Q1	• CMC infrstrucutre installation & upgradation up to 60% capacity. • Pilot CMC - DR at Delhi. • Installation & integration of RMCs in 1 LSAs, & 3 ILDs.	• CMS set-up with Data Centre Build, Transitory DR site with requisite capacity to monitor & intercept
								Q2	• Installation & integration of RMCs in 9 LSAs. • CMC DR infrastrucutre upto 30% capacity	

							TSPs. • Transitory Disaster Recovery (DR) infrastructure and related IT equipment.	Q3 & Q3	• Installation & integration of RMCs in 11 LSAs. • Data centre build for DR site upto 40% capacity • DR infrastructure up to 30% capacity	voice from TSPs in 21 LSAs and 10 ILDs.
2	Broadband Technologies	Design, Development of a high capacity (terabit) router technology.		32.32		• Development of Commercial grade multi terabit Router.	• Multi-terabit router prototype system • Commercial deployment of 1 terabit capacity router	Q1	• Multi-terabit router SW adaptation for IMS.	
								Q2	• Multi-terabit router SW adaptation for LTE	
								Q3	•Multi-terabit router HW implementation • Software porting on multi-terabit hardware	
								Q4	•Multi-terabit router integration & testing •Multi-terabit router prototype system	
3	Next generation mobile technology	To focus on Research & Development efforts on emerging Wireless Technologies for broadband Networks - 4G Technology.		57.18		4G Wireless Development				

(i)	LTE-A	Design & development of Femto eNodeB base station and the corresponding Evolved Packet Core (EPC).		35.77		• Femtto eNodeB system development • LTE macro base station development • Evolved Packet Core (EPC) development.	• Pilot trial of TDD LTE eNodeB system. • Technology commercialization for LTE FDD eNodeB system	Q1	Prototype RRH (Remote Radio Head) integration in TDD and FDD band with eNodeB system.	
								Q2	Development of FDD, femto 1watt radio.	
								Q3	• Development of RRM (Radio Resource Management), SON (Self Organization Networks) & OAM (Operation & Administration Module) • Development of TDD RRH (band 40) & FDD RRH (band 13)	
								4Q	• TDD LTE eNodeB system pilot trial. • Technology commercialization of FDD femto eNodeB. • eNodeB integration with WiFi technology.	
(ii)	Fixed & Mobile Converged Platform	To create a core network platform for delivery of services to fixed and mobile subscribers		21.41		Developoment of • Copper Access Node • On-line charging server • Payment	Pilot trial of • Copper Access Node • Integrated legacy mobile technologies	Q1	• Integrated release of Fixed Line Prepaid (FLPP). • Copper Access Node pilot / field trial.	Core platform readiness for rolling-out

						gateway • Integrated LTE plus IMS core network • Converged core on Cloud Platform	and IMS core • Payment gateway for IMS core. • Converged core on Cloud Platform	Q2 Q3 Q4	Integrated release of Payment Gateway with IMS core. Porting of Converged Core on Cloud Platform Integrating with legacy mobile technologies	converged core network.
4	Carrier networks' transport technology	To focus on Research & Development of optical access and aggregation system (OAAS) & optical Core networks (OCN)		26.91		Next Generation PON (NG-PON) & DWDM-based core network				Prototype NG-PON technology readiness for pilot trial
(i)	Optical Access & Aggregation system (OAAS)	Development of next generation PON technology		15.85		• 32G PON system : WDAN (WDM- based technology) • 10G GPON system : X-GPON (TDM-based technology)	• 32G PON WDAN system • 10G GPON OLT prototype	Q1 Q2 Q3 Q4	Validation completion: • OTDR controller card Pilot trial commencement of OTDR controller card • Design completion for WDAN ONT • Design completion for WDAN OLT Validation completion: • WDAN ONT • Design completion for XGPON OLT (prototype)	

									Validation completion: • WDAN OLT	
(ii)	Optical Core Network (OCN)	Development of 40G / 100G DWDM Optical Network System		11.06		• Terminal Equipment (TE) • ILAs (In Line Amplifiers) • ROADMs (Reconfigurable Optical Aaa-Drop Multiplexer)	Prototype TEs for partially equipped 100G system	Q1	• Development completion for TE with 100G muxponder	Technology being in the nascent stage of development involve high end devices, their availability may impact the development schedule.
								Q2-Q3	• System integration & testing for partially equipped TEs with 100G muxponder	
								Q4	• Validation commencement for partially equipped TEs for 100G muxponder • H/w & S/w development completion for TE 40G muxponder	
5	Secure wireless & wire-line networks	Tto focus on research and development for setting up a secure mobile communication networking using		3.26		• Design and development of secure phone & tablet.	• WiPS tablet and handset • Testing of WiPS services with SDCN and launch of services.	Q1	• Trials for integrating core SDCN network with prototype handset.	

		standard wireless technologies such as 3G, WiFi.						Q2-Q3	• Design completion for secure tablet & handset.	
								Q4	• Integration testing of WiPS services with SDCN & launch of services for end users network.	
6	Telecom services & appplication	Software intensive applications for Converged NMS service delivery platform to support multiple applications and value added services		15.99		• Unified / converged network management system• Cusotmized platform for rural services (CPRS)				
(i)	Converged Network Managemen t system (CNMS)	To build a Unified NMS (UNMS) to provide end-to-end unified view and monitor & manage service providers' networks and services.		12.98		UNMS release supporting functionalities such as provisioning management, configuration management, performance management, fault management, etc.	UNMS S/W release piloting in various client networks.	Q1 - Q2	• UNMS release v1.0.0 for NFS PoC • UNMS release v2.0.0 supporting various management functions, wirless functionality, abstraction layer based on S/W defined networks, Open flow, TMF standards etc. .	

								Q3 - Q4	• Readiness of UNMS release 2.1.0 supporing enhancements, PoC / piloting the release in networks of TSPs, ISPs, defence, etc.	
(ii)	Cusotmized platform for rural services (CPRS)	To develop a rural-specific customized service delivery platform for DRAX applications with advanced features and simplied GUI.		3.01		• Client system • Service Applications supporting various features like Gesture & Speech recognition, Near Field Communication (NFC)	• Application oriented services' implementation • Field deployment of CPRS system in the client network • ToT of client hardware	Q1 - Q2	• Implementation of Aadhar authentication and integration. • Implementation of Video conferencing	

								Q3-Q4	• Implementation of gesture recognition. • Testing and internal validation • Field Trial (progressively with upgraded functionalities). • ToT commencement	
7	Satellite based technology	This scheme envisages the development of product(s) / technology based on the emerging requirements from prospective user organization(s)		9.32		Development of Satellite-based Hub baseband system	• Satellite Hub baseband Modem Subsystem • Terrestrial Interface Gateway Subsystem	Q1	Development of Gateway for terrestrial connectivity	New project proposed for development in 2014-15.
								Q2	Design of a programmable hub baseband system	
								Q3	Integration of prototype hub	
								Q4	Field trials of prototype hub	
8	Next Generation security for telecom & data networks	To enhance the present interception techniques, development of indigenous encryption/decryption to enhance the network security to combat the emerging security threats, development of		8.74		Advance Intelligent Monitoring System (AIMS): • CMS architecture scaling up for capacity enhancement • Interception solution for new technology, eg. LTE, IP-TV, IMS converged & fixed mobile, etc. • Integration with Satellite & Marine interception, UID	• Upgradation of indegenous probe to support higher traffic • Interception solution for technologies: IMS-based fixed-mobile converged system, & LTE, NGN • Terminal	Q1-Q2	• Support for existing technology with unicode support for multi lingual SMS, bug fixes, ILD, LBS, multiple LIS provision, etc. • Advance Intelligent Manager supporting entity based tower intelligence software for bulk data collection, target SMS content analysis, prototyping communitypattern in	AIMS development to support interception for new technologies.

		passive probes, Smart Phone intercept, social network monitoring.				data base. • Advance Intelligence Manager based on Artificial Intelligence (AI)	support for other form factor devices for monitoring.		call data, etc.	
								Q3	• Design and development of interception solution for new technologies (LTE, LGN LIS, IPLC) • Monitoring applications for other form factor devices. • Stand-alone intelligence manager, grey market analysis, etc.	
								Q4	• Validation and pilot trial in the field (LTE, NGN LIS) Pilot trial in the field for • Interception solution for new technologies – LTE/ LTE-A, NGN • Content and crypt analysis	

9	Enabling technologies & telecom networks	This scheme helps C-DoT tomaintain its position ofexcellence in R&D, byconducting basic research aswell as conducting studiesand setting up pilots innew/green field areas inTelecom Enablingtechnologies & Networks.		1.59		Projects related tofeasibility study / Proof ofconcept and setting uppilots in new / green fieldareas in telecom enablingtechnologies andnetworks.	• Proof ofconcept (PoC)• Feasibility study report	Q1 to Q4	The study programs are defined on year-to-year basis, and this includes active antenna design for 4G base-stations, mm waves for 5G base-stations, green power supply system and M2M communication.
10	Enhancements / New Features / upgradation / adaptation / technical support for developed technologies	To focus on Research & Development efforts on enhancements, upgrade, update, evolution, feature addition, scalability, value addition and customization of developed technologies to meet changing requirements.		66.98		Enhancement / Upgradations / support for : SDCN, MAX-NG / NGN, ATM Support, NMS Support, Software intensive applications, etc.	Activities are planned for every year, depending on customer request, field deployment requirements, market demands, etc.	Q1 to Q4	Enhancements / New Features / upgradation / adaptation / technical support for developed technologies

11	Campus Infrastructure	Construction of residential facilities for CDOTians within the Delhi campus area, to facilitate flexible working hours conducive for R&D culture.		2.00		Construction of dwelling & Hostel facilities for C-DOT staff & Project Board	Finalization of tender, invitation of tender bids,award of work for residential complex	Q1 to Q4	Finalization of tender, invitation of tender bid & award of work.	Commencement of construction activity is subject to obtaining statutory approvals (being awaited)
	TOTAL			**260.00**						