NOTE TO USERS

REGULATION OF SATELLITE TELECOMMUNICATIONS IN INDIA

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Abstract

Commercialization of space activities particularly harnessing satellites for telecommunication in the 1970's is perhaps the most dynamic development of the twentieth century comparable only to the industrial revolution of the seventeenth century. The possibilities of civilian applications of satellite technology confined to its military use until the recent past has raised urgent questions of policy and regulations both nationally and internationally.

The main objective of the thesis is to review the development of satellite telecommunication with particular reference to India. The thesis assesses the present access status and the regulatory regime, analyzes general challenges of deregulation including concerns of national security, fair competition, equal opportunity for service providers and manufacturers and above all consumer protection. It examines the how the Canadian CRTC and American FCC are addressing the current challenge posed by rapid technological developments and consequent convergence of telecommunications and broadcasting as well as lessons India could learn from the Canadian and American experiences. Finally suggestions are made for a possible logical direction for India's future telecom policy, in particular and the commercialization of space activities, in general.

Abstract

La commercialisation des activités spatiales, notamment le développement des télécommunications par satellites durant les années 70, est peut-être l'événement le plus déterminant du XXeme siècle, comparable à celui de la Révolution Industrielle au XVIIe siècle. Les possibilités d'applications de la technologie par satellites à des fins civiles, car jusqu'alors elles se limitaient au domaine militaire, ont soulevé des questions de politique et de réglementation à la fois à l'échelon national et international.

Le but principal de cette thèse est de revoir le développement des télécommunications par satellite avec une attention particulière pour l'Inde. Cette étude analyse les conditions actuelles, la réglementation, les questions Le but principal de cette thèse est de revoir le développement des télécommunications par satellite avec une attention particulière pour l'Inde. Cette étude analyse les conditions actuelles, la réglementation, les questions posées par une déréglementation avec, entre autres, celles de sécurité nationale, de concurrence loyale, d'égalite d'opportunités entre les pourvoyeurs de services, les fabricants, et surtout la protection des intérêts du consommateur. Cette analyse se penche sur les expériences faites au Canada et aux Etats Unis et examine comment CRTC et FCC répondent aux défis posés par les changements rapides de technologie et la convergence des moyens de télécommunication et diffusion. En dernier point, cette thèse étudie les possibles et logiques developpements ouverts à l'Inde dans le domaine des télécommunications, et plus particulièrement dans la commercialisation de ses activités spatiales. Cette étape est à la fois inevitable.

Acknowledgements

At the start I have to say that the fact that I enrolled for the LLM program was not part of a plan but a chance occurrence, as it were, because of my husband got transferred to Montreal as Representative of India on Council of the ICAO. Having put on hold my law practice in New Delhi I arrived here in October 2002 with some reluctance and apprehensions of how I would manage getting through the three years. At loose ends in Montreal, it was Justice Joseph Nuss of Court of Appeals in Montreal who first suggested that I enroll at the Institute of Air and Space Law, even if for a Graduate Certificate Program which I did this with some mixed feelings in Fall 2003.

I am grateful to Professor Paul Dempsey for suggesting in January 2004 that I transfer to LL.M Program from the Graduate Certificate Program into which I had initially enrolled. Over the 2003 Fall Semester I became very interested in the various aspects of aviation and space law. I am particularly interested in space law and its applications since I believe that this is a relevant field that holds great potential for India.

Through out this time, I interacted often with Professor Ram Jakhu on various issues related to telecommunications and space development in India. I told him that in 1996 I had appeared on behalf of Department of Telecommunications in my capacity as Counsel for the Union of India in matters filed in the High Court of Delhi by private cellular service operators challenging the National Telecom Policy 1994 on the question of whether or not DoT acting in its capacity as regulator could regulate itself in its capacity as Licensor. It is out of these discussions that Professor Jakhu suggested the possible title for the Term Paper and Thesis. I wish to express my deepest gratitude to Professor Jakhu not only because he is my supervisor for this work and has devoted meticulous time for regular interactions during the course of writing it, but more so for the ready encouragement he gives me to expand the horizon of my interests in the field of space law in its many dynamic dimensions.

I would like to record my appreciation for Dr. Nicholas M Matte for instituting the Award that carries his name for a student who secures the highest marks in the General Principles of Space Law Course and the Faculty of Law and the IASL for awarding me the Nicholas M Matte Award 2004.

Above all I thank my husband Sanat who sportingly enrolled in the IASL's Graduate Certificate Program with me in the 2003 Fall Semester (and admits that the knowledge gained helps him greatly at ICAO Council Sessions) and has looked on bemused as I have struggled with the Term Paper and this Thesis. I express special thank you to my daughter Mahima who graduated from McGill in June 2005. It was wonderful to be a student at the same University at the same time as her, although graduating a few months later. In fact, it has been a standard joke among my wonderful classmates and the ever cheerful and efficient staff of IASL that the Family Kaul had taken hold of McGill by enrolling *en mass*.

Ranjana Kaul

Abbreviations

DoT Department of Telecommunications, Ministry of Communications, Government of India is the Licensor for the telecom sector in India.

TRAI Telecom Regulatory Authority of India is the regulator for the telecom and broadcasting sectors.

TDSAT Telecom Disputes Settlement and Appellate Tribunal.

BSNL Bharat Sanchar Nigam Limited is the government controlled incumbent that provides all services in the whole country except in the metro cities of Delhi and Mumbai.

MTNL Mahanagar Telephone Nigam Limited is the government controlled incumbent which provides all services in the two metro cities of Delhi and Mumbai.

VSNL Videsh Sanchar Nigam Limited was a government incumbent which provides international long distance services throughout the country. VSNL has been privatized and is now owned by Tata Teleservices Limited, a private service provider.

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Chapter I

Introduction

« ...Where every one can create, access, utilize and share information and knowledge, enabling individual, communities and people[s] to achieve full potential and improve their quality of life in a sustainable manner. »

Declaration of Principles

World Summit on the Information Society (WSIS), December 2003.

This Chapter presents a brief global overview of the telecommunication sector to help put the Indian perspective into context. Presently, the most serious challenge that the Indian telecom sector faces is of how to overcome the low level of universal access to telecom services, a factor that has prevented the establishment of an information society in the country.

1. AN OVERVIEW

Five years into the new millennium almost every country in the world is connected to the internet. Impressive as it sounds, we know that the digital divide is a problematic reality consequent to sharply varying levels of penetration of information and communication technologies ('ICT') between and within countries. Member States of the International Telecommunication Union (ITU) are seized of the matter and the ITU World Telecommunications Report 2003[1] states that ITU has devised strategies to identify indicators for measuring access of the world's population to ICTs.

The first generation telecommunications industry grew at rates between 5% and 7% per annum for most of the period after World War II. This changed dramatically in 1970's when satellite telecommunication applications introduced the world to second generation telecommunications. The power and vast potential of satellite applications in telecommunications, which hitherto depended on the basic telegraph technology, became clear particularly after 1991 when the Global System for Mobile Communications (GSM) was introduced resulting in the rate of growth sharply peaking at 28% in 2000. It is

[1] World Telecommunications Development Report 2003, www.itu.int , [WTDR 2003]

estimated that by the end of 2002 there were 787 million GSM subscribers across 190 countries of the world. Underlying this growth was a period of high and sustained investment. It is estimated that in 2000 more than US$ 200 billion were invested by traditional telecom operators. The industry was worth almost a trillion US dollars in terms of service revenues and the top operators alone generated profits of almost US$ 50 billion[2]. This trend was especially true of the developed economies. The United States of America (U.S.) remained in the lead. The closing years of the last century were heady times. Information Technology, Communications and Entertainment (ICE) were the buzz words. Dotcom companies, Venture Capital and Information Technology (IT) applications were the driving force of the "new economy". NASDAQ was the most watched bourse and even the most conservative retail investor bet his money on the ICE shares.

However, 2001 and 2002 marked a turning point for the industry when the 'dot-com bubble' burst and more than 470,000 jobs losses were announced, share prices plummeted and several ventures failed --- for example, to surround the planet with satellites (Iridium) or with fiber optic cables (Global Crossing) ended in bankruptcy, resulting in declining growth rate for the industry[3]. Over investment in bandwidth capacity led to the bankruptcy of companies like Flag Telecom, Global Crossing, 360Networks, Carrier 1, PSI Networks, Tele globe, WorldCom and KPN Qwest among others. It is estimated that of the 300 global telecom companies that existed in 1999, 200 filed for bankruptcy in 2002 and that over US$500 billion was lost by way of market capitalization. This had a sobering effect on the growth rate of telecom companies particularly those in the internet and broadband business. Today new patterns are emerging as mergers and acquisitions lead to consolidation.

On the flip side, mobile service has continued to boom in terms of subscriber growth. This new technology and service innovations, such as pre-paid cards, have changed the economics of network roll out especially in emerging economies, particularly the least developed countries (LDC) where mobile penetration rates have continually surpassed industry forecasts. The ITU World Telecommunications Development Report 2002

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[2] World Telecommunications Development Report 2002, www.itu.int ,[WTDR 2002]
[3] *ibid.*

states that less than 1% of the world' inhabitants had access to a mobile phone in 1991 and only a third of the countries had a cellular network. By the end of 2001 over 90% of countries had a mobile network, almost one in every six of the world's inhabitants had a mobile phone and in almost 100 countries there were more mobile than fixed line subscribers. It may be noted that slower growth in the subscriber base in fixed lines resulted in a slower growth of internet services which depend directly on the level of penetration of basic telephone services[4].

However, industry watchers foresaw that the inevitable convergence of mobile communication and internet would produce innovations, new applications and new services which would not otherwise be possible. Another aspect of telecom that is poised to revolutionize the way in which we will lead our lives in the future are wireless, data and 'wi-fi' technology applications. This awesome revolution is being driven by the Code Division Multiple Access (CDMA) digital wireless technology that was pioneered by QUALCOMM, USA. It uses a "spread spectrum" technique to scatter a radio signal across wide range of frequencies. Commercially introduced in 1995 CDMA quickly became the world's fastest growing wireless technology. In 1999 the International Telecommunication Union selected CDMA as industry standard for the new "third generation (3G) wireless systems" that are deployed via broadband connection. Needless to say that it will require high levels of capital investment for this to happen. Clearly then, the world markets are set to recovering from the set backs.

That being said, the new century is an opportune time to redefine measurable targets for ICT access. It is understood that ICTs enable instantaneous exchange of information and delivery of innovative applications, for example in government, commerce, education and health. Without ICTs many people around the world remain excluded. The Millennium Declaration[5] was adopted by 189 Member of the United Nations at the Fifty-Fifth General Assembly in September 2000. One of the eight Millennium Development Goals[6] declares a commitment to ensure that the number of people who live on less than a dollar a day be halved by the year 2015. Significantly, in respect to the work of the ITU, the Declaration acknowledges that ICTs are an important tool to achieve its overall goals.

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[4] *ibid.*
[5] UN Millennium Declaration 2000, www.unmillennium/declaration/ares552e.htm, [UNMD]
[6] UN Millennium Development Goals 2000, www.developmentgoals.org, [UNMDG]

ICTs can help alleviate poverty, improve the delivery of education and health care, to make governments more accessible and accountable to the people. Target 18 of Goal 8 calls upon governments to cooperate *" with the private sector make available the benefits of new technologies, specifically information and communications"* to achieve the goals of poverty eradication, economic development, literacy and gender justice in developing and the least developed parts of the world.

The Declaration emphasizes the need to make available access to ICT on a universal basis as a means to bridge the digital divide. It is, therefore, important to distinguish between *Universal Service* and *Universal Access* in context to telecommunications and attendant regulations that make this possible. *Universal Service* refers to high level of ICT penetration at the household level and is more suitable for high and upper-middle income countries. It includes a mix of telephone lines, personal computers and internet access, all the common essentials for plugging into the online age. *Universal Access* refers to a high level of ICT availability which can be provided via homes, schools and public access locations and is a measure more appropriate for lower-middle and low income developing nations. Because mobile is the largest telecommunications service in many countries, it seems appropriate to include that in universal access determination[7]. Therefore, it is imperative to root policies aimed at removing the digital divide and establishing inclusive information societies on meaningful data to enable identification of disparities in access, to track progress and to make international comparisons. For this purpose in November 2003 ITU created the Digital Access Index[8] based on pragmatic indicators to measure access, usage, volume and value of ICTs in countries around the globe. Hence it is important to chart out regulatory changes affecting the telecommunications industry in consequence to new technological developments. As can be expected, however, although a number of indicators exist, there are huge differences in definitions, methodologies and appropriate policy analysis of data. This is because statistics are obtained from current administrative records rather than from purpose built surveys. Inevitably, then, the statistical divide is as great if not greater than the digital divide.[9]

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[7] *ibid.*
[8] ITU Digital Access Index, www.itu.org, [ITUDAI]
[9] WTDR 2003, supra note 1 at 1

In any case, it is recognized that without appropriate regulation of the telecommunications industry, the objective of bridging the digital divide cannot be achieved. In this context, the three basic ingredients appropriate for regulatory reforms that have been identified are: (i) deregulation; (ii) competition; and (iii) independent regulator. It is also recognized that the difference between fast and super fast growth is often the quality and timing of such reform.

The year 2002 marks the twentieth anniversary of the first steps taken towards telecom sector reform in the U.S. on the 8th January,1982 when AT&T agreed to the break-up of the Bell system monopoly. Since then countries around the world have embarked upon the process of reform following different pathways. Once started, however, reform tends to be irreversible and the final years of the last century have demonstrated that the basic reform recipe has been correct. The difference between fast and super fast growth in telecom, as we have already said, is the commitment of governments to move swiftly and not to miss out on important steps. The cases of Chile and Argentina are illustrative. Both privatized their telecommunications operators at about the same time. But whereas Chile moved ahead with competition, Argentina hesitated allowing the incumbent telecom operator a seven year period of exclusivity which was extended by a further three years. As a result Chile's fixed-line density which stood at only half that of Argentina's at the time of privatization overtook it by the time Argentina first introduced competition. A similar pattern emerges in a comparison between Hong Kong and Singapore, resulting in Hong Kong gaining a lead of about 18 months over its neighbor[10]. Among countries that did not fare well during the decade are countries that suffered from civil war or those that retained state-controlled incumbents like India. Thus to find Canada on that list is surprising[11].

2. THE INDIAN PRESPECTIVE

India became independent in 1947. The country adopted a socialistic pattern of economy and put in place a command structure with a Planning Commission and Five Year Plans to achieve all round development in industry, agriculture and other sectors.

[10] ITUDAI, supra note 8 at 4
[11] WTDR 2002, supra note 2 at 2

It was only in 1991 that the Government of India began to dismantle its command economy structure by adopting policy initiatives which paved the way for private participation in almost all sectors save those critical to the security interests of the country[12].

The Government of India put the telecom sector on the priority list for reforms. Thus the first generation reform in the sector was introduced by the National Telecom Policy 1994 (NTP 94), revised and carried forward in the New Telecom Policy 1999 (NTP 99)[13] and in the 2003 Addendum to NTP 1999[14] making India, with a population of over 1 billion, one of the fastest growing telecom markets in the world[15]. Today, India stands on the threshold of a telecom explosion. At the close of 2004 India has a fixed telephone network of 44.76 million lines and 48 million cellular phone connections, aggregating a total subscriber base of 92.76 million registering a growth of 31.42%[16]. India has the 7th largest telecom service network in the world that is the second largest among emerging economies. India has emerged as the fourth largest telecom market in Asia after China, Japan and South Korea. Tele-density has more than doubled from 2.3% in 1999 to 8.62% at the end of December 2004[17]. This is a remarkable contrast when we consider that up to 1992 the market was served by only two monopoly basic service providers, resulting in high prices for the consumers and a tele-density of less than 1%.[18] Telecom density

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[12] Bipin Chandra, "India After Independence: 1947-2000" (Penguin Books India, 1999) 339 – 373, [Chandra].

[13] New Telecom Policy 1999 is appended to this thesis as Annexure 1 and can also be accessed at www.dot.gov.in [NTP99].

[14] Addendum to the New Telecom Policy -1999, OM No.808-26/2003-VAS dated 11th November, 2003 Annexure 2 infra, [ADD 2003].

[15] National Telecom Policy 1994, www.dot.gov.in [NTP 94]
National Telecom Policy 1994 is a broad statement of objectives to bring into focus the requirement for promoting development of telecommunications in India through private participation. Policy was issued by the Department of Telecommunications to give effect to the new economic policy initiated by the Government of India in 1991. Its primary object was to make efficient telecommunications readily available at reasonable rates to all citizens, protect consumers and encourage FDI to ensure that India emerged as a major manufacturing base as well as exporter of telecom equipment and to protect national security and defense interests. The Policy paved the way for DoT to issue the first batch of 16 cellular phone service licenses in 18 State circles; licenses for basic telephone services to 6 operators in 6 State circles; licenses to 6 operators for providing VSAT data services for closed user groups.
However, the implementation of the NTP '94 was unsatisfactory chiefly because of the unrealistically high fixed license fees imposed and absence of an independent regulator.

[16] TRAI, Press Release 6/2005 dated 9-1-2005,www.trai.gov.in ,[TRAI press release]

[17] *Ibid.*

[18] Department of Telecommunications, Government of India, Annual Report 2001-2002 www.dot.gov.in

estimate of 7% penetration by 2005 has already been exceeded. The Indian telecom market estimated to be over US$ 90 million[19] is expected to treble by FY 2012. This strong growth has been fueled further by key government initiatives since 2002. This has included roll out of internet telephony services and the privatization of the government controlled incumbent international long distance service provider Videsh Sanchar Nigam Limited (VSNL) by disinvesting 74% of its equity to a private strategic partner[20]. That being said India is still far from achieving her potential. The current national tele-density of 8.62% means that over 90% tele-density remains to be achieved. The extremely slow pace for regulatory reform of the telecommunication sector does not augur well for the overall development and growth of the country.

In 2003 the telecom industry regulator, Telecom Regulatory Authority of India (TRAI) issued Guidelines for Interconnection for basic, cellular, national and international long distance service (3G Licenses). In November 2003 Department of Telecommunications (DoT) issued an Addendum to the NTP1999 adding two new license categories, the Unified License for Telecommunication Services and License for Unified Access (Basic & Cellular). Since then TRAI has taken steps to move the industry towards cost-based tariffs. In 2004 the government announced both the Broadband Policy and a reduction in the Access Deficit Charge.

The announcement of the Policy and Guidelines for Growth of Internet and Broadband in September 2004 signals the acceptance by the central government that internet growth in the country has been "flat". TRAI Recommendations on the subject state that at the relevant time India had 0.04 internet connections and 0.02 broadband connections per 100 persons, while South Korea had 25 and China had 1.4 broadband connections per 100 persons, with current levels 50% higher than had been just six months earlier. Korea had achieved its spectacular success in less than 5 years going from less than 1 broadband subscriber per 100 persons in 1999 to its present level.

It is universally accepted that widespread broadband adoption accelerates GDP growth. The Broadband Policy 2004 is expected to have a far reaching impact on accessibility of ICT in India and result in an increase in GDP as has been witnessed in China, Korea,

[19] Exchange rate as on 10th February 2005: 1INR = US$ 43.7200.
[20] *ibid*

Malaysia and Singapore[21]. In 2000 information technology primarily driven by broadband rollout had accounted for 50% of South Korea's GDP growth rate.[22] An analysis by the National Broadband Economy Committee of the Confederation of Indian Industry (CII) shows that the 2004 value of benefit to the Indian economy due to growth of broadband is expected to be US$90 billion for the years 2010-2020 together with additional growth in labor productivity. This activity is expected to launch new business lines and increase efficiency in existing businesses, leading to direct the employment of 1.8 million and a total employment of 62 million by 2020. These estimates are based on goals set by CII for achieving at least 10 million subscribers by 2010 and 32-39 million by 2020.[23]

In this context it is important to point out that although we find a reference to a 'Satellite Communications Policy' (SATCOM Policy) as part of the New Telecom Policy 1999[24], it is a statement limiting its goal to allowing users avail transponder capacity from domestic and foreign satellites for certain services in the Ku band frequency in consultation with the Department of Space (DOS). In the absence of a clear policy and separate statute to deal with satellite telecommunications, the Government of India has been regulating satellite telecommunications in terms of the Indian Telegraph Act, 1885[25] a colonial law to regulate terrestrial telecommunications, which is amended from time to time to bring new satellite enabled telecommunication applications and technologies within its ambit. This is reflected in various telecom service license categories available to operators in India. Although purpose of this thesis, as the title suggests, is to examine the regulatory regime in relation satellite telecommunications in India, we will necessarily examine the evolution of the traditional non-satellite telecom statues to understand how this has negatively impacted the overall development and growth of satellite telecommunications in the country, particularly in relation its universal access.

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[21] Document relating to Recommendations on Accelerating Growth of Internet & Broadband, 28th April, 2004, ww.trai.gov.in [RGIB 2004]

[22] Dr.Heejin Lee, Dr. Kyounglin Yun, So- Hye Lim, "The Growth of Internet Broadband Connections in South Korea: Contributing Factors", (Stanford University 2002).

[23] Confederation of Indian Industry, Department of Information Technology and Department of Telecommunications, Document relating to "Indian Broadband Economy: Vision 2010; Vision, Strategies, Recommended Action", (IBM Business Consulting Group, 2004), [CII, "Vision"].

[24] SATCOM Policy see NTP 99, supra note 13 at 6. See para.3.9 for statement relating to the SATCOM Policy [SATCOM].

[25] Indian Telegraph Act, 1885, www.dot.gov.in [ITA 1885]

FOCUS OF THE THESIS

At the end of 2004 India had achieved a tele-density of 8.62%[26]. Therefore, imperative questions that arise are (i) how can India provide telecom services to 92% of her population, particularly in the remote and inaccessible areas? (ii) What is the appropriate regulatory policy to achieve that target? (iii) What statute would be appropriate to facilitate the process? (iv) What lessons can India draw from Canadian Radio-television Telecommunications Commission (CRTC) & American Federal Communications Commission (FCC) when dealing with the challenge of regulating the impact of convergence technologies on telecommunications and broadcasting industry? These questions and issues are the main thrust of this thesis which will be addressed in Chapters III and IV. In conclusion Chapter V suggests a possible roadmap to achieve an information society in India.

However, before we understand the essence of the regulatory regime and the deregulation process of the telecom sector in India, it is imperative that we understand the substance of global regulatory framework, the process of deregulation and how countries have calibrated that process to suit their particular requirements. These issues basic to understanding the Indian telecom sector will be dealt in Chapter II following.

[26] TRAI, press release, supra note 16 at 6.

Chapter II

Regulatory Challenge in General

The single critical factor that determines the pace of growth in industry is the regulatory challenge which comprises the legal framework within which the regulator functions. Therefore in order to understand how telecom regulators regulate industry, it is imperative to understand the policy and legal framework from which they derive existence and authority as well as the manner in which governments exercises control over them. The reluctance of governments to free the industry regulator from its control and to the continuing protection of the incumbents has inevitably slowed the process of deregulation. This chapter will examine these and other challenges in light of the many forms and strategies governments typically adopt to keep control and fend off the inevitable competition that new technology, market deregulation and independent industry regulator inevitably bring.

1. GOVERNMENT OBJECTIVES [27]

Perhaps the single most important driving ambition that every nation has is to earn international prestige and admiration. Every government wants to position its country as a 'global player' and be seen at the cutting edge of technological development. This position of strength in the international arena enables a country to pursue an assertive foreign policy in order to enhance its sphere of influence and open up global markets for their business and industry. However to be counted as a dominant player, presupposes that a country has a highly developed domestic industry. This requires coherent long terms policies for development and the finance to ensure its success. Therefore, a government must be an economic facilitator. Not only must a government develop infrastructure in the country but adopt a policy that will ensure the growth of a strong domestic industry by balancing conflicting interests and harness new technology for economic prosperity of its citizens. Telecommunications is recognized a cardinal tool for administration and development. In addition to its role as a facilitator of both private and public enterprise, it is the mandate of every government to make the benefits of

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[27] Piyush Joshi, "Law Relating to Infrastructure Projects", 2nd Edition, (LexisNexis Butterworths India, New Delhi, 2003), [Joshi, *Law*].

development to the low-end users, the underserved and un-served populations. Typically in the past and to a large extent even today countries which have not accorded sufficiently high priority to developing the telecom sector have the least developed ICTs and low levels of economic development in general.

2. SETTING POLICY PRIORITIES

Government policy sets out objectives together with strategies to achieve them. In telecommunications, as indeed in other industry sectors, it is critical to establish policy priorities. The cost of achieving stated objectives and determining at what pace they should be targeted is a key factor. This is particularly true for developing countries which have been late comers for which to catch up is an urgent goal, even though most of them do not have inherent technological or financial means. Thus the problem is of locating finance for the infrastructure rollout. Typically, the national treasury, domestic financial institutions and capital markets do not have adequate resources. In such circumstances the critical question that governments must deal with is to decide how much foreign direct investment to permit. In trying to balance the need for huge financial outlays and the paramount responsibility of protecting the security & national interests of the country, governments have to reconcile political criticism that range from accusations of a 'sell-out to foreign powers', 'abdication of sovereignty' and 'neo-colonialism' among others. Therefore, a government must develop relevant policies and regulatory framework sufficient to develop their national telecommunications infrastructure.

3. WORLD TRADE ORGANIZATION & GENERAL AGREEMENT ON TRADE IN SERVICES

Close on heels of the FDI[28] issue is the question of how to make home industry strong enough to face international competition once the GATS[29] comes into effect, removing all trade barriers that currently protect domestic telecom markets in compliance to the WTO Agreement[30]. National Commitments to open market in telecommunications services were first made during the Uruguay Round (1986-1994), mostly in value- added

[28] Foreign Direct Investment [FDI]
[29] GATS, document relating to General Agreement on Trade in Services for Telecommunications, www.wto.org, [GATS]
[30] World Trade Organization, Geneva is a multilateral trade body which promotes liberalization in trade of goods and services through (i) market access; (ii) 'Most Favored Nation' Status : (iii) according 'National Treatment' to all members, www.wto.org. [WTO]

services. In extended negotiations thereafter (1994-1997) Members of the WTO negotiated on basic telecommunications services. Since then new commitments have been made either by new Members upon accession or in a unilateral fashion by existing Members. This is a difficult dilemma for developed countries, but particularly so for developing countries that prefer to calibrate deregulation as a means to ensuring that their nascent domestic industry is not destabilized. Thus Members were given the freedom to make commitments requisite to their own domestic compulsions. Commitments which are appended to the GATS Document on Telecommunications Services do not create a universal platform rather they consists of commitments by Members to 'open' the telecom sector in conformity to the GATS standards, *albeit* calibrated to their individual national circumstances.

In context to WTO and GATS, it is appropriate to state that negotiations have led 79 WTO Members to open their telecommunications markets and make commitments in respect to at least one telecom sub-sector. At the international level, markets opening for telecommunications services became a more widely accepted objective at the end of the Uruguay Round. Convinced that opening their respective markets under WTO rules would be even more beneficial than doing it only internally, a number of countries committed themselves to open their markets for some telecommunications services at the end of the Round. They agreed to continue more ambitious negotiations starting 1994 to including public voice services, in particular. These negotiations concluded successfully in February 1997 when the '*Protocol on Basic Telecommunications Services*' was adopted. The Agreement came into force in February 1998. Since then several more countries have liberalized their markets on an autonomous basis. India has made commitments in respect of regulatory framework and the opening certain services to competition.[31]

4. PROBLEM OF UNIVERSAL SERVICE OBLIGATION

Typically, in developing economies which have not achieved economies of scale for the cost of the last mile linkage, domestic private sector is not motivated to enter into the under served and untapped areas where basic infrastructure is weak or non existent. It

[31]GATS, document relating to India's National Commitment on Telecommunications, supra note 29 at 11.

remains, therefore, the burden of the government to provide these services. The inevitable imperative to balance cost per unit for operation with affordable cost per minute of usage of telecom service has to be met by subsidies to off set losses. Revenue for USO is generated by imposing a 'levy' on licenses granted for various services. Typically, countries to put into place strategies to meet the Universal Service Obligation (USO). USO is a significant part of the overall telecom policy because the cost of fulfilling that obligation is a crucial input for calculating license fees, permitted tariffs and tax structure. Given that it is the declared objective of countries to make available access to basic telecom services to all at affordable and reasonable rates countries raise resources to meet the cost for providing universal access to telecommunication services by in different ways. Thus the USO issue is a problem of access economics, one of ensuring economical returns at current rates for developing access for the underserved and un-served segments. The problem can be reduced to a simple equation of 'profitable access / unprofitable access / untapped segments', where profitable access must finance the other two parameters. As said elsewhere, countries adopt multiple approaches to fulfill USO. For example in India the Department of Telecommunications (DoT) generates revenue for meeting cost of USO through a Universal Service Levy (USL) at a prescribed percentage from revenues earned from license fees. National Telecom Policy 1999 envisages implementation of USO for rural and remote areas through mandatory roll out by service providers who are reimbursed from funds collected into the Universal Service Obligation Fund (USO Fund). Other service providers are allowed to participate in USO provisioning subject to technical feasibility and are to be similarly reimbursed out of USO Fund.

5. APPROACHES ADOPTED BY COUNTRIES TO RAISE REVENUE TO FULFILL USO[32]

Funding method/ Allocation method	Calculated loss compensation	Implicit subsidy*	Auction ADC	Voucher to end users
Tax on Revenue *Select / All services Per minute fee	USA UK AUSTRALIA INDIA FRANCE (FT responsibility, paid for by all operators) CANADA	UK (cost benefit greater than USO cost)	HONGKONG (based on international traffic minutes)	US (schools, health care providers & low end users)
National Budget *Funded by Treasury		CHILE (Telecom Development Fund)		
Cross Subsidies		NEW ZEALAND (Telecom to provide US deficit from LD rates) MEXICO		

6. POLICY MAKERS AND GOVERNING LAW [33]

That the legal framework within which the sector functions must be enabling and responsive is indispensable. A quick run through of policy makers, governing law, incumbents and regulators in different countries would be appropriate at this juncture.

COUNTRY	POLICY MAKER	GOVERNING LAW
USA	Congress	Telecommunications Act, 1996
CANADA	Parliament	Telecommunications Act, 1993
UK	Department of Trade & Industry 'DTI'	Telecommunications Act, 1984
AUSTRALIA	Parliament	Telecommunications Act, 1999
CHINA	Ministry of Information Industry 'MII'	Telecom Regulations of the Peoples' Republic of China
INDIA	Parliament	Indian Telegraph Act, 1885 (as amended)

[32] Confederation of Indian Industries, Telecom CEO's Policy Forum, document related to 'Discussion on Policy Priorities' (The Boston Consulting Group, New Delhi, 28th April,2003),[CII 2003]
[33] *ibid.*

7. THE REGUALTORS[34]

COUNTRY	REGULATOR
USA	Federal Communications Commission 'FCC'
CANADA	Canadian Radio-Television &Telecommunications Commission 'CRTC'
UK	Office of Communications 'OFCOM'
AUSTRALIA	Australian Communications Authority 'ACC'
CHINA[35]	MII
MALAYSIA	Malaysian Communications & Multimedia Commission
INDIA	Telecom Regulatory Authority of India 'TRAI'

8. WHAT SHOULD THE REGULATOR REGULATE?

There are no standard solutions to enable nascent industry to grow and most countries struggle to strike an appropriate balance among several regulatory variables. A fully deregulated market or 'free market' as it is often called, in fact, postulates a fairly complex body of regulations designed to ensure that all participants, private or public, in a given sector of the economy are able to access market and conduct business on the basis of equal opportunity to succeed on account of a level playing field which regulations ensure. Regulations are in the form of the guiding law, rules and regulations communicated to the service provider in the terms and conditions attached to licenses granted them by government or the licensor. Failure to comply may invite penalties and may result in the revocation of the license.

There are, however, four generally accepted criteria in respect to which governments have to create a balance. These are briefly listed below and are dealt with in some detail elsewhere.

(a) How to regulate an incumbent which is the existing operator, usually a government monopoly. Question to be answered is whether to support the incumbent or regulate to allow others to enter the market.

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[34] *ibid.*

[35] It may be noted that in countries where the policy maker and regulator are the same, the regulator is not independent

(b) How to prevent predatory practices, usually in pricing, to ensure equal access to networks for the new entrants. Question to be answered is whether to regulate price of the incumbent alone or whether to impose price caps or whether to let market forces determine cost to consumer.

(c)Whether to license a predetermined number of players. The question is of the type of market model to put in place. Should markets be duopolistic or be permitted to operate with controlled competition or be fully deregulated?

4. Finally, there is the question of license fees. Should license fees be fixed or variable based on revenue sharing; and should license fees be fixed at high or low levels?

Unless the government can establish precise regulations to balance basic parameters outlined above, the telecom sector, or indeed any regulated industry sector, cannot succeed. The reason why telecommunications must be regulated is because the sector is regarded as 'infrastructure' that is vital to economic development and growth. It has been the experience of countries like Argentina, South Africa and even in the U.S. (privatization of 'water' in Atlanta, Georgia) that whenever infrastructure sector was privatized to allow markets to determine the price, quality of the service deteriorated, consumers suffered and the company in question suffered financial losses. Even the World Bank has changed its thinking from the 'privatization' and 'free market' mantra of the 1980s to one of regulating core infrastructure industry. The case of privatization of 'water' and 'sewage & solid waste disposal' is cases in point. [36] To fully understand the compulsions of the basic parameters, therefore, it will be useful to identify incumbents in a few countries that lead development in telecommunications.

[36] World Development Report 2003, www.worldbank.org, [WDR2003]

COUNTRY	THE INCUMBENTS
USA	**No incumbent but AT&T "dominant provider"**
CANADA	**Bell Canada, TELUS, Sask Tel, Aliant**
UK	**British Telecom**
GERMANY	**Deutsch Telecom**
AUSTRALIA	**Telstra**
CHINA	**China Telecom**
INDIA	**BSNL, MTNL & VSNL***

* In 2002 the Central Government has divested 74% equity in VSNL to a Strategic Partner.

Two examples, among many others, of how incumbents have tried to stave off competition or at least retain dominant position are Australia where "Telstra has been extremely successful in delaying competition" and India where despite great resistance to competition from incumbent Mahanagar Telephone Nigam Limited (MTNL) the basic service provider in the Delhi and Mumbai (Bombay), TRAI permitted new entrants to provide basic telephone service in the two metro cities in 2002.

On the whole it may be concluded that regulators worldwide have typically regulated against incumbents, particularly in order to prevent predatory practices. Again we may quote the Australian and Indian examples. In Australia, "In June 1999, the situation worsened and the Minister stepped in and conferred extra powers on ACCC to block Telstra's delaying tactics...." Again, "... Current regulatory regime must be changed if it is to be effective... insufficient initiatives for industry ("Telstra") to negotiate an equitable outcome..."[37]. While in India "the most critical issue is predatory practices...."[38]

[37] CII 2003, supra note 32 at 14.
[38] Telecom Regulatory Authority of India Report 1997, www.dot.gov.in, [TRAIR 1997].

9. THE MECHANICS OF REGUALTION[39]

(a) Regulating Predatory Practices to ensure Level Playing Field

COUNTRY	PRICING RESTRICTION ON INCUMBENT	RESTRICTIONS TO PREVENT PREDATORY PRACTICES BY INCUMBENT
USA	FCC limits AT&T's ability to create "off-tariff" contracts Local access favorably priced for new entrant.	AT&T treated as 'Dominant Provider'...subject to regulations.
CANADA	Floor price for incumbents above that of private players	Equal access mandated.
UK	Tariff changes of BT to be approved by Regulator	Restriction on bundling till 1998 BT forced to start separate entity for cellular services. Non- discriminatory access.
GERMANY	Regulator to approve DT tariffs.	Bundling of services restricted to DT - private players can offer integrated services. Regulator specifies interconnect charges DT forced to start separate cellular entity.
INDIA	Floor price for Incumbent 10% above private players	Equal access mandated.

The regulator has to adopt a licensing system which ensures fair practice not only in favor of all licensees but which is favorable to the consumers as well. In order to do this it is critical for the regulator to ensure that private service providers have equal access to the incumbent networks. In the final analysis, the strength of the industry depends on the quality and level of regulations to ensure fair and level playing fields for the ultimate benefit of the consumer. This can be achieved in two principal ways. First, is to ensure equal access to customer by implementing conditional access code (CAC) in a staggered manner with strict deadlines and large penalties in case of non-adherence. This implies ensuring that customers have access to competitive offerings (e.g. calling cards) while at the same time ensuring no blocking of such cards. Australia is a good example. Second, is by ensuring non-discriminatory access to network. For example, UK, Germany,

[39] CII 2003, supra note 32 at 14.

Malaysia, Argentina, Singapore have successfully ensured either a guarantee of minimum or unlimited access. In India, on the other hand, TRAI reported that "crowded competitive landscape means uneconomical circles...". In fact, UK, Malaysia and Mexico have since moved to ensuring free access to incumbent networks. Furthermore in all EU countries, Malaysia and South Korea service levels are equivalent to that of the incumbent. In other words, process charges and time taken to provide connections, like National Long Distance Access Termination & Interconnect, at LDCA level vs. the SDCA level insisted upon by incumbent are equal.

(b) Licensing Number of Players or Deregulation

The choice is between establishing a duopoly, controlled competition or a complete free market. For example, in the U.K. the "Duopoly Review" was initiated in 1991 because it was observed that BT/Mercury duopoly was not providing the desired results of a fully free market.

A comparative of path & timing of deregulation adopted by countries[40]

Country	Monopoly Baseline 1980	Value added Service	Long distance competition only	Duopoly	Fully Deregulated market
USA	nm	1980	1984		1996
CANADA	m	1979	1992		1997
UK	m	1984	1984		1992
AUSTRALIA	m	1986	1996	1998	2000
ARGENTINA	m	1990		2000	
CHILE	m	1984	1994		
INDIA	m	1992	2002	2002	

c) Structuring Appropriate Licensing Fees are critical to create market healthy conditions and do not inhibit growth and expansion of the sector. It has been observed that countries where governments have been operating as incumbent monopolies find it difficult to 'let

[40] *ibid.*

go', as it were, and look to ways for compensating the national treasury from the notional loss of revenue which deregulation and privatization entails. Consequently, first attempts at privatization often result in the imposition of very high, often unrealistically high fixed or variable license fees.

It is observed equally that even if license fees are fixed very high, market condition feedback over time results in regulators arriving at a cheaper and fairer license fee rates to enable growth in the sector. For example, in India unrealistically high fixed license fee to be paid in advance, in addition to the one time non-refundable entry fee, was imposed on new entrants in the cellular phone service sector. Consequent financial difficulties and ensuing litigation resulted in the migration from the fixed license fee system to a revenue sharing model. TRAI has now announced its intention to shift to a cost sharing structure[41].

In similar strain, the 3G licensing has come full circle. Just like the 2G cellular license has become cheap, 3G started very high with auction and moved to more reasonable levels in the countries that de-licensed later. Therefore, the primary task of a regulator is to ensure fair pricing for both the consumer and the incumbent. The decision to be made is whether fixed or variable license fee structure will serve growth and development better.

One of the most important concerns that a regulator must address is the fear that the incumbent will use its network to depreciate assets to a price below cost. It must, however, be stated that most countries have discriminated in favor of new operators against the incumbent by mandating equal access to its network. Nor has it helped to allow new entrants to fix their own prices. Experience in India suggests that new entrants are offering very low pricing putting the incumbent and perhaps even the overall health of the telecom industry at risk.

A regulator must thus explore alternatives. Some options could be: (a) to allow the incumbent to set prices. This will ensure economic health of incumbent, but it must be also ensured that the incumbent cannot use close proximity to government and set monopoly pricing via consumer and regulatory approvals; (b) to set floor price for other

[41] NTP99, supra note 13 at 6.

players at % below incumbent price. This allows competitors to reap some benefits of competitive efficiencies while continuing to pressure the incumbent to improve and drop prices accordingly. However, rapid price decrease could mean unsustainable levels.

We may conclude by saying that in order to achieve the targets set by the UN Millennium Development Goal, governments of Member States of WTO and ITU must understand the relationship between regulation/ regulatory reform and industrial competitiveness. This is especially true of countries which do not figure in the 'High Access' category in terms of the access level value indicators listed in the ITU Digital Access Index 2002[42]. Thus the key issues on the table are:

Whether to regulate, *i.e.* to determine whether or not alternate measures to regulation would be more appropriate to achieve a given set of policy objectives;

What aspects of economic behavior should government regulate so as to stimulate economic development and competitiveness?

When to regulate, so that regulations can be matched to technological and social change;

How to regulate and/or change regulations, *i.e.* to ascertain both the most appropriate type of regulation to facilitate innovation and tools that need to be designed for reforming the process by which future regulations can be are drawn up; and the **Appropriate Level** of regulation – local, national or supranational.[43]

In the following chapter we will discuss issues specific to the satellite telecommunications and evaluate how India has responded to the challenge of shifting from terrestrial telecommunications to satellite telecommunications through adequate and appropriate actions.

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[42] WTDR 2003, supra note 1 at 1

[43] Kevin Hinde, "Regulating Industry: A European and Global Perspective", http://www.unn.ac.uk/-egv8, (Unit EC419, Level 2, 2000).

Chapter III

Regulatory Reform and Deregulation in India

Telecommunication regulatory reforms have been underway in India for the last 14 years since the country began calibrated deregulation of the sector. The Broadband Policy notified by Department of Telecommunication (DoT) in September 2004[44] informs us that growth in this sector has gathered such momentum since 1991 that by April 2002 India was adding 0.28 million new mobile phone connections per month although Telecom Regulatory Authority of India (TRAI) had fixed high tariffs and permitted only two operators per circle[45]. By April 2004 operators were adding almost 2 million new mobile subscribers per month, almost 8 times the April 2002 figure[46]. It is reported by the DoT [47] that in 2002 for the first time cellular subscriber base exceeds the fixed line subscriber base. Cellular subscriber base registered 103% growth and increased from 6.9 million in May 2002 to 14.1 million by May 2003 registering an aggregate of 79.5 million subscribers for basic and cellular telephone services by the end of May 2004[48].

India presents a typical developing country model in which mobile subscribers have far exceeded fixed line subscribers. Consequently while the country was getting 'connected' rapidly, the use of the internet continued to suffer in the absence of broadband rollout which if permitted could have accelerated the overall telecommunication services access status. This was the very tool used by South Korea, among other countries, to transform their access status to the distinct advantage to the country's GDP[49]. Pursuant to the notification of Guidelines for Growth of Internet and Broadband in September 2004 the incumbents Mahanagar Telephone Nigam Limited (MTNL)[50] and Bharat Sanchar Nigam

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[44] Department of Telecommunications, document relating to the Broadband Policy 2004, www.dot.gov.in/, [BP2004]

[45] 'Circle' is the nomenclature used by the Department of Telecommunications to represent the area of operation for purposes of issuance of license allowed to various private telecom services operators. There are 28 Telecom Circles in India.

[46] RGIB 2004, supra note 21 at 8

[47] Department of Telecommunications Annual Report 2003-2004, www.dot.gov.in, [DoTAR 2003-04]

[48] Press Information Bureau: Press Release by TRAI dated 9th June 2004, www.pib.com, [PIB]

[49] *ibid*

[50] Mahanagar Telephone Nigam Limited (MTNL) is the incumbent service provider in the two metro cities of Delhi & Mumbai (Bombay). Currently the Government of India holds 52% equity while in 2000 the balance 48% was disinvested in a public offering, www.mtnl.com ,[MTNL]

Limited (BSNL)[51] have commenced broadband internet service to their consumers effective 15th January 2005.

1. INTERNATIONAL LEGAL AND REGULATORY CONTEXT FOR SATELLITE COMMUNICATIONS

The development of satellite telecommunications in India must necessarily be viewed in the context of UN treaties on outer space, on national activities in respect of telecommunication and broadcasting satellites and the regulatory requirements postulated by the International Telecommunications Union in respect to management to frequency spectrum and orbital slots.

(i) UN Conventions on activities in Outer Space

India has ratified four of the five international conventions on outer space. These are the 1967 Outer Space Treaty, 1968 Rescue Agreement, 1972 Liability Convention and 1974 Registration Convention[52]. International obligations arising out of these treaties make India internationally liable for activities in outer space conducted by its own and its private entities. Thus being internationally responsible for activities in outer space conducted its entities, India is obligated to ensure their due authorization and continuing supervision. The implementation of international obligations in the domestic context necessarily requires specific national space legislation. However, India has not yet enacted domestic law to implement the UN treaties.

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[51] Bharat Sanchar Nigam Limited (BSNL) is the incumbent service provider for the rest of the country. It is wholly owned by the Government of India. BSNL is the mandated to fulfill USO, www.bsnl.com [BSNL].

[52] India has ratified the following international space law conventions:
(1) *Treaty on principles governing the activities of States in the exploration and use of outer space, including the moon and other celestial bodies'* Opened for signature at Moscow,London and Washington, on 27 January,1967. Source : 610 UNTS 205 1967; (2) *Agreement on the rescue of astronauts, the return of astronauts and the return of objects launched into outer space'* opened for signature at Washington, London and Moscow on 22 April 1968[52]. Source: 672 UNTS 119; (3) *'Convention on the international liability for damage caused by space objects'* opened for signature at London, Moscow and Washington on 29 March 1972, Source: 961 UNTS 187 (hereinafter referred to as 1972 Liability Convention); (4) *'Convention on registration of objects launched into outer space'*. Adopted by the General Assembly of the United nations, at New York, on 12 November 1974, Source: 1023 UNTS 15
India is signatory to the'*Agreement governing the activities of states on the moon and other celestial bodies*'(hereinafter after referred to as the 1979 Moon Agreement). Source: UN doc. A/RES/34/68 of 5 December 1979

The absence of domestic law to deal with various aspects of satellite enabled telecommunications and broadcasting services assumes significance in view of the permission granted by Department of Space for the establishment of private satellite systems by making INSAT capacity for commercial use[53] in order to accelerate growth of satellite telecommunications in the country. While Guidelines and Procedures announced by ISRO describe the process to be followed for application and registration of private satellite systems, no information is available on what national treatment is prescribed for private entities or the role of DOS in respect to obligations arising out of the 1972 Liability Convention.

(ii) International Telecommunications Union (ITU)

The International Telecommunication Union (ITU) is the specialized U.N. agency that regulates telecommunications and broadcasting satellites by making appropriate allocation of radio frequencies and orbital positions to member administrations.[54] The instrumentalities of governing radio frequencies and orbital slots, both limited natural resources, are international and national.[55]

Regulating the use of radio frequencies is an essential aspect of the work of the ITU. Radio Regulations are reviewed and revised at the Radiocommunication Conferences held every two years along with the Radiocommunications Assembly. These changes are reflected in the National Frequency Allocation Plans maintained by member states. In India the Standing Advisory Committee on Radio Frequency Allocation (SACRFA)[56] in the Ministry of Communications is responsible formulation and updating the National

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[53] ISRO Procedures, supra note 67 at 26
The Indian National Satellite (INSAT) system is a joint venture of the Department of Space (DOS), Department of Telecommunications (DOT), India Meteorological Department (IMD), All India Radio (AIR) and Doordarshan. The overall coordination and management of INSAT system rests with the Secretary-level INSAT Coordination Committee (ICC). Established in 1983, INSAT has become one of the largest domestic communication satellite systems in the Asia Pacific Region with eight satellites in operation — INSAT-2E, INSAT-3A, INSAT-3B, INSAT-3C, INSAT-3E, KALPANA-1, GSAT-2 and EDUSAT.

[54] The 1967 Outer Space Treaty mandates that the exploration and use of outer space must be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development in Article I. supra note 72 at 27

[55] Ram S.Jakhu and Virginia Rodriguez Serrano, International Regulation of Radio Frequencies for Space Services, Law of Space Applications, Vol.I, 2004 Institute of Air & Space Law, Faculty of Law, McGill University, Montreal Canada, pp.161-202

[56] Standing Advisory Committee on Radio Frequency Allocation in the Ministry of Communications, www.dot.gov.in [SACRFA]

Frequency Allocation Plan, for allocation of appropriate frequency spectrum to service providers and other users, for resolving disputes between wireless users, making recommendations in respect to ITU issues. The Wireless Planning & Coordination (WPC) Wing[57] in the Ministry of Communications is responsible for frequency spectrum management including licensing and is the national radio regulatory authority. WPC Wing exercises statutory power of the central government to issue licenses responsible for establishing, operating and maintaining wireless stations[58].

The National Frequency Allocation Plan (NFAP) first established in 1981 in conformity with ITU guidelines has been modified from time to time. In pursuance of NTP 99 the National Frequency Allocation Plan-2000 (NFAP-2000)[59] was evolved and made effective from 1st January, 2000. The Government recognizes that regular revision of the NFAP every two years in line with the Radio Regulation Conferences of the ITU is imperative to keep pace with rapid technological developments in the telecom sector. Consequently NFAP 2000 was replaced by the revised NFAP-2002 which was due for revision in 2004.

2. NATIONAL TELECOM POLICY FRAMEWORK

(a) New Telecom Policy 1999[60] (NTP 99)

Although the step towards opening the telecom sector in India first began in 1984 when the manufacture of subscriber terminal equipment was opened to the private sector, it was only in 1991 that government adopted a new economic policy with the aim to improving India's competitiveness in the global market. The policy was aimed at attracting foreign direct investment, stimulating domestic private investment and increasing exports. Because it was recognized that telecommunications of world class quality were necessary to achieve these objectives, the highest priority was awarded to the telecom sector. Within five years the National Telecom Policy 1994[61] came under attack. Cellular phone service licensees were unable to pay the licensor, i.e. the Department of

[57] Wireless Planning & Coordination Wing was set up in 1952, www.dot.gov.in [WPC Wing]
[58] *ibid*
[59] DoT, document in relation to National Frequency Allocation Plan 2000, www.dot.gov.in , [NFP 2000]
[60] NTP 99, supra note 13 at 6.
[61] NTP 94, supra note 15 at 6.

Telecommunications (DoT), the unrealistically high fixed license fees they had accepted to pay, resulting in revenue loss to the national treasury and serious financial difficulties for the licensees. In the absence of an independent regulator, licensees refused to accept DoT as both licensor and arbitrator in the dispute on non- payment of license fees resulting in the licensees challenging the validity of the National Telecom Policy 1994 in the Supreme Court of India[62].

The conflict of interest was evident and the government awoke to the urgent need to establish an independent regulatory authority for the sector. Parliament passed the Telecom Regulatory Authority Act, 1997[63] in order to establish the Telecommunications Regulatory Authority of India[64](TRAI). The establishment of an independent regulator as the basis for full deregulation of the telecom sector is a cardinal requirement under the GATS Agreements. By establishing TRAI India has fulfilled its international obligation under the GATS Agreement.

Ironically, the first litigation filed in the High Court of Delhi[65] was on the question of whether or not TRAI had the jurisdiction to regulate the Central Government, i.e. DoT in its capacity as 'licensor'. The court ruled in favor of the Central Government. Furthermore in subsequent related matters licensees refused to accept TRAI as both regulator and arbitrator. Consequently Government of India announced the New Telecom Policy 1999 to correct distortions inherent in NTP 94 which were threatening the very process of deregulation. Later in 1999 Parliament amended the Telecom Regulatory Authority of India Act, 1997[66] to establish an independent dispute resolution

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[62] *Delhi Science Forum v. Union of India*, All India Reporter SC 1356 [Delhi Science Forum]

[63] The Telecom Regulatory Authority of India Act 1997, www.trai.gov.in [TRAI Act 1997]
It may be noted that unable to enact the statute because parliament was in recess and to obviate the possibility of the Policy being struck down by Supreme Court and the attendant chaos it would have created in the industry in the interim, Central Government promulgated the Telecom Regulatory Authority of India Ordinance, 1995 during the pendency of litigation in the Supreme Court of India prior to enactment of the statute by Parliament.

[64] The Telecom Regulatory Authority of India is located at A-2/14, Safdarjung Enclave, New Delhi 110 029. TRAI was established in 1997 to function both as Regulator & Arbitrator in respect of disputes between licensees and DoT and DoT and itself until 1999. Therein lay the problem.

[65] *Union of India v Telecom Regulatory Authority of India & Ors*, FAO 89/98, 93/98, 04/98 & others and Civil Writ Nos.2764/97,2805/97,3947/97, 1997 High Court of Delhi, www.dot.gov.in.

[66] Telecom Regulatory Authority of India (Amendment) Act, 1997, www.dot.gov.in. [TRAI Amendment Act 97].

forum called the Telecom Disputes Settlement and Appellate Tribunal[67] (TDSAT) which was vested with disputes resolution function hitherto exercised by TRAI. The establishment of TDSAT necessitated the reconstitution of TRAI. This was achieved by passing the 2000 Telecom Regulatory Authority of India (Amendment) Act[68]. The amendment brought in much needed clarity in the functioning of TRAI and strengthened its regulatory and recommendatory functions. The 2000 Act makes it mandatory for DoT to seek recommendations from TRAI on specified matters although these are not binding on DoT. The reconstituted TRAI became functional effective March 2000[69].

The second important achievement of the NTP 99 was that it engaged in the first round of tariff balancing by enabling cellular service licensees to migrate from high fixed license fees a model based on a one time entry fee in addition to sharing a predetermined percentage of annual revenue. The Policy extended the license period from 10 years to 20 years, resolved to end DoT monopoly in NLD[70]& ILD[71], resolved to issue interconnect licenses between fixed, cellular & other services and resolved to replace the Indian Telegraph Act,1885 with a new legislation.

(b) 2003 Addendum to NTP1999[72]

In recognition of the central aims of NTP 99, the central government has added two more categories of licenses for telecommunications services. These are (i) License for Unified Access (Basic & Cellular) Services permitting licensees to provide basic and/or cellular services using any technology in a defined service area; and (ii) Unified License of Telecommunication Services permitting licensees to provide all

[67] Telecom Disputes Settlement & Appellate Tribunal ('TDSAT') is located in Delhi. TDSAT adjudicates any dispute between Licensor & Licensee, between service provider & group of consumers, hears and disposes appeals against any decision or orders passed by the TRAI, www.dot.giv.in, TDSAT is presently presided over by Justice D.P. Wadhawa, retired Judge of the Supreme Court of India; and 2 Members: Mr. R.U.S.Prasad & Mr. P.R.Dasgupta, [TDSAT].

[68] TRAI (Amendment) Act 2000, www.trai.gov.in [TRAI Act 2000]

[69] The reconstituted TRAI has a Chairman, 2 full time members & 2 part time members. Presently Mr. Pradip Baijal is Chairman; Mr.D.P.S.Seth & Mr.P.S.Sarma are full time members; while Dr. Arvind Virmani & Prof. Sanjay P.Dhande are part time members, www.trai.go.in .

[70] National Long Distance("NLD") monopoly was vested in government controlled public sector undertakings ("PSU") Incumbent basic telephone service providers Mahanagar Telephone Nigam Limited ("MTNL") for Delhi & Mumbai & Bharat Sanchar Nigam limited ("BSNL") for the rest of the country.

[71] International Long Distance ("ILD") was vested in the DoT government controlled PSU, the Videsh Sanchar Nigam Limited ("VSNL").

[72] ADD 2003, supra note 14 at 6.

telecommunications/telegraph services covering various geographical areas using any technology. This is first comprehensive attempt by the Government of India to rationalize and simplify the telecom license regime in the country.

(C) Satellite Communications Policy [73]

The Satellite Communications Policy (SATCOM Policy) is briefly articulated as part of the main text of the NTP 99. It aims to allow users to avail of transponder capacity from both domestic and foreign satellites in consultation with the Department of Space[74] (DOS), use of satellite communications for gateways for international long distance service and the use of Ku band frequency for such communications.

On 12th January 2000 ISRO announced the *Procedures for SatCom Policy Implementation* stating therein that "steep growth in the satellite-based communication services as well as newly emerging services in this area require substantial private sector participation" and was consistent with "the liberalization in telecom sector as well as the global trends in this area."[75] This was followed on 8th May 2000 by announcement of *Norms, Guidelines and Procedures for Satellite Communications* to supplement the *Procedures* to implement SATCOM Policy 1999[76]. Private Indian companies with a foreign equity of less than 74 percent were permitted to establish Indian Satellite Systems by applying for registering their satellite systems to the Committee for Authorizing the

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[73] SATCOM, supra note 24 at 8. See para 3.9 of NTP 99

[74] The Department of Space (DOS) functions under the Space Commission under the direct charge of the Prime Minister of India. The DOS implements policies formulated by the Space Commission through the Indian Space Research Organization (ISRO) and other space under agencies under its charge. It is observed that ISRO issues communications in the name of the Department of Space. www.isro.gov.in

[75] ISRO, Procedures for SatCom Policy Implementation announced on Jan 12,2000, www.isro.gov.in [ISRO Procedures]

[76] ISRO, Norms, Guidelines and Procedures for Satellite Communications Announced May 8,2000, www.isro.org [ISRO Guidelines]
"The Government has approved a policy that envisages allocation of INSAT system capacity for non-governmental users, registration of Indian satellite systems by private Indian companies and limited use of foreign satellites in special circumstances. The Department of Space (DOS) will be the administrative ministry in all matters related to satellite systems. As per the policy, the Indian National Satellite System (INSAT) capacity will be made available to non-government (private) Indian Service Providers on a commercial basis subject to availability after meeting the government needs. The DOS will allocate INSAT capacity for private users. DOS may also build capacity in INSAT system for private users on request on commercial basis."

Establishment and Operation of Indian Satellite Systems (CAISS)[77]. The CAISS is responsible for issuing authorization for operation[78], orbit spectrum notification and registration of the satellite system[79]. However, operating licenses for specific services are to be obtained by the Indian Satellite Systems operators from concerned administrative departments, i.e. Department of Telecommunication for telecom services and Ministry of Information and Broadcasting. Existing procedures established by Telecom Commission remain applicable for TV/Radio broadcasting[80].

The use of foreign satellites for telecommunication services in India is permitted only in consultation with the Department of Space in special circumstances or if suitable capacity/capability is not available in INSAT or Indian Satellite Systems. Existing procedures established by Telecom Commission apply for the use of foreign satellites for Internet Service Provider (ISP) gateways[81]. In fact the INSAT system owned and operated by the DOS through ISRO provides the bulk of transponder capacity for satellite telecommunication applications launched by the government as well as for private enterprises operating in the sector.

3. NATIONAL LEGAL FRAMEWORK FOR TELECOMMUNICATIONS

'Telecommunications' falls under the legislative competence of the Union of India appearing at Entry 31 in the Seventh Schedule in the Constitution of India. Consequently, all matters pertaining to the telecom sector are dealt with by the Central Government and enacted by the Federal Parliament of India.

Under the legal framework presently regulating the telecommunications sector in India, there are three basic terms that are used to cover the ambit of telecommunications

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[77] The office of CAISS is set up at the SatCom Programs Office at ISRO Headquarters, Antariksh Bhavan, New BEL Road, Bangalore- 560 094 www.isro.gov.in

[78] The 1967 Outer Space Treaty requires member states to be internationally responsible and liable for activities in outer space of its own and its non government entities. Such national activities are to be permitted only after due authorization and under continuing supervision.

[79] The 1974 Registration Convention requires launching state to maintain an appropriate 'registry' in which various details about a space object launched into orbit are required to be registered. These details have to also be communicated to Secretary General of the UN. *'Convention on registration of objects launched into outer space'*. Adopted by the General Assembly of the United nations, at New York, on 12 November 1974, Source: 1023 UNTS 15

[80] ISRO Guidelines, supra note 68 on 26

[81] *ibid*

services. These are 'telegraph', 'telecommunications service' and 'wireless communication'[82]. There are two principal statutes that govern the sector. (1) The Indian Telegraph Act, 1885[83] which has been amended several times since its inception[84]. (2) The Indian Wireless Telegraphy Act, 1933[85] which deals primarily with the possession of instruments capable of being used for wireless communications. The control and regulation by the Union Government over the telecommunication sector in India is enshrined in section 4 of the Indian Telegraph Act, 1885[86] read with section 3 of the Wireless Telegraphy Act, 1933. Both statutes are colonial laws aimed at control of terrestrial telecommunications in pre-independent India. Although neither Acts deal with satellite telecommunications, the government has consistently brought various satellite telecommunications services and applications within its ambit by periodic amendments.

Thus we find that the Indian Telegraph Act 1885 defines only 'telegraph' and does not contain definitions of 'telecommunication services', 'electromagnetic spectrum' or provide any standard for the provision of 'telecommunication services' that are cardinal to satellite telecommunications. The main focus of the outdated colonial enactment was to govern the establishment, operation and maintenance of 'telegraphs' and through that cover each form of telecommunication service under it[87]. Furthermore, radio waves and hertzian waves were defined to mean electromagnetic waves of frequencies lower than 3000 giga cycles per second, propagated in space without artificial guide. The term 'telegraph' therefore refers to the apparatus rather than the service itself[88]. This

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[82] Joshi, supra note 27 at 10

[83] ITA 1885, supra note 25 at 8

[84] Indian Telegraph (Amendment) Act, 2003, www.dot.gov.in [ITA, 2003].
The latest amendment to the Act carried out in 2003 was particularly significant because it provided the necessary legal structure to enable the Central Government to disburse the USO subsidy from the USO Fund to service providers to subsidize them for the cost of providing rural telephony roll out mandated in all license.

[85] The Indian Wireless Act 1933 seeks to regulate the possession of telegraph wires and covers only copper wires as it defines telegraph wires to cover only copper wires. www.dot.gov.in [Wireless 1933]

[86] ITA supra note 25 at 8
Section 4(1) defines 'telegraph' as: "any appliance, instrument, material or apparatus used or capable of use for transmission or reception of signs, signals, writing, images and sounds or intelligence of any nature by wire, visual or electro-magnetic emissions, radio waves or hertzian waves, galvanic, electric or other means."

[87] ITA 1885, supra note 25 at 8
The Preamble to the Indian Telegraph Act 1885 specifies that it is *"An Act to amend the law relating to Telegraphs in India"* rather than telecommunication services.

[88] *ibid*, see Explanation to section 4(1)

interpretation is borne out by the Guidelines for issue of Licenses as Infrastructure Providers in both Category-I (IP-I) and Category-II (IP-II)[89].

The definition of the term 'telecommunication service' in the Telecom Regulatory Authority of India Act, 1997[90], drawing its core from the Indian Telegraph Act 1885, was expanded by incorporating a *Proviso*[91] to section 2(k) to create a new ambiguous category *'other services'* without defining whether services that fall outside the scope of 'telegraph' and 'wireless communication' would fall within the new category. Thus we find that though the definition of 'telecommunication service' without the *Proviso* clearly excludes 'broadcasting', the *Proviso* has allowed the central government to notify broadcasting as telecommunication service by bringing it under the new *'other services'* category.

While it is clear from the definition of the term 'wireless communication'[92] in the Indian Wireless Telegraphy Act 1933 that the emphasis is of law is not to control wireless communications itself but the possession of apparatus that undertakes communication, nonetheless the Act effectively regulates every aspect relating to wireless communication including the use of frequencies and place of establishment of wireless equipment in any telecommunications network. The Wireless Telegraphy Act 1933 prohibits a person from possessing wireless telegraphy apparatus except under license issued by the Telegraph Authority declared as the competent authority under the Wireless Telegraphy Act 1933.

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[89] Handbook on Telecommunications Industry of India 2003, (compiled by India Book Centre, New Delhi), pp.187-191 copsbooks@yahoo.com, ['Handbook"]
The guidelines distinguish between (i)companies that provide the physical elements of a telecommunication network such as dark fibers (bare optic fiber cables that are not connected to photo ancillary equipment required to enable optic fibers transmit a message), right of way and tower which do not require a license but only to be registered and (ii) companies that actually provide end to end bandwidth (the medium that actually transmits a message) which require a license.

[90] TRAI Act 97, supra note 55 at 23, See section 2 (k)

[91] TRAI Act 2000, supra note 60 at 24, See proviso to s. 4 (1)

[92] Wireless 1933, supra note 77 at 28, See section 2 (1)
Wireless telegraphy is defined to mean ant transmission, omission or reception of signs, signals, writing, images and sounds or intelligence of nay nature by means of electricity magnetism, conductors between the transmission and receiving apparatus. "wireless apparatus" is defines as any apparatus, appliance, instrument or material used or capable of use in wireless communication and includes any article determined by rules made under section 10 which empowers the central government to make rules to bring the provisions of the act into effect.

Thus even though the Indian Telegraph Act 1885 and the Wireless Telegraphy Act 1933 empower the central government to issue licenses to private operators to establish, operate and maintain telegraphs and wireless telegraphy apparatus, the framework created by the Indian Telegraph Act 1885 does not provide for regulations to create a level playing field for private participants for providing telecommunication services. This cardinal infirmity has continued to inhibit growth of satellite telecommunications in India as it continues to be governed by law that is competent only in respect to terrestrial telecommunications.

The inadequacy of the present statutes to regulate the satellite communications sectors was articulated by the Supreme Court of India as early as 1995[93] when it observed that:

"..... (the) Indian Telegraph Act 1885 is totally inadequate to govern an important medium like radio and television, i.e. broadcasting media. The Act was intended for altogether a different purpose when it was enacted. This is the result of the law of this country not keeping pace with the technological advances in the field of information and broadcasting. While the leading democratic countries have enacted laws specifically governing broadcasting media, the law in this country has stood rooted in the Indian Telegraph Act, 1885. Except for s.4(1) and the definition of 'telegraph', no other provision of the act is shown to have any relevance to the broadcasting media...."

The NTP 1999 recognizes that substantial technological changes in the telecommunications sector has made it imperative to replace the present statutes with a more forward looking law[94]. However, no time frame has been set and until then the 1885 Act will remain the principal statute.

Other important statutes are: (i) Cable Television Network (Regulation) Amendment Act, 2002[95] which provides a legal framework for the implementation of the Conditional Access System (CAS) to facilitate Direct-to Home (DTH) television services and also to regulate the capacity of cable operators to arbitrarily impose price conditions on the consumers. Unfortunately in consequence to pressure from vested groups, government has suspended implementation of CAS in terms of Notification S.O. 271 (E) dated 27th February 2004 ; (ii) The Telecom Regulatory Act, 1997 created the independent regulator, the Telecom Regulatory Authority of India. The TRAI, located in New Delhi, is composed of a Chairman & three Members; (iii) The Telecom Regulatory

[93] *Secretary, Ministry of Information & Broadcasting v Cricket Association of Bengal*, (1995) 2 SCC 161,298-301, per Justice P.B Sawant & Justice S.Mohan [Secretary, Ministry of I&B]
[94] NTP 99, supra note 13 at 6. See Para 9.
[95] The earlier statute was the Cable Television Network (Regulation) Act, 1995.

(Amendment) Act 1999 created the Telecom Disputes Settlement and Appellate Tribunal (TDSAT) to hear and dispose appeals against any decision or orders passed by the TRAI[96]. TDSAT[97] adjudicates any dispute between licensor and licensee[98], between two or more service providers[99]and between service provider and group of consumers[100]. Exceptions to the jurisdiction of TDSAT are all matters falling within the purview section 5 of the Monopolies & Restrictive Trade Practices Act, 1969 (as amended), complaints of individual consumers which fall within the purview of the Consumer Protection Act, 1986 and such disputes as may arise between the Indian Telegraph Authority[101] in terms of section 7 of the Indian Telegraph Act, 1885.

Appeal against decisions of the TDSAT lie before the Supreme Court of India.[102] TDSAT which is vested with judicial powers is presided over by a retired Judge of the Supreme Court of India. The Tribunal adjudicates disputes, disposes of appeals and protects the interests of service providers and consumers alike.

Consequent to the creation of TDSAT, the TRAI was reconstituted in terms of the Telecom Regulatory (Amendment) Act, 2000. In terms of the said Act the functions of the reconstituted TRAI are to issue regulations pertaining to setting tariffs, fix terms and conditions for interconnection and make recommendations to DoT on these matters. The reconstituted TRAI began functioning in March 2000 and has since played a pro-active role in creating a responsive regulatory framework for the sector.

The Department of Telecommunications (DoT) was also reconstituted into two distinct entities by hiving off its function as Service Provider. Thus Department of Telecommunication retains its function of formulating the telecom policy for it is required to seek non-binding recommendations from TRAI. In addition, DoT functions

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[96] TRAI Act 97, supra note 55 at 23. See Chapter III above for provisions in relation to the powers & functions of the authority; Chapter VI for miscellaneous provisions pertaining to the functioning and powers of the Authority and Section 14 (C).
[97] *Ibid* .Chapter IV contains the provisions relating to the Telecom Disputes Settlement & Appellate Tribunal
[98] *ibid.* Section 14 (a) (i).
[99] *ibid.* Section 14(a) (ii).
[100] *ibid.* Section 14(a) (iii).
[101] 'Indian Telegraph Authority' means the Director General (Posts and Telegraphs) in terms of section 3(6) of the Indian Telegraph Act 1885, supra note 25 at 8.
[102] *ibid.* Section 18.

as the Telecom Commission of India which discharges the function of licensor and manages & allots radio frequency spectrum[103].

The Department of Telecom Services ("DoS") was responsible for the management and functioning of incumbent service providers MTNL, BSNL [104] and VSNL the incumbent international long distance service provider[105]. In 2000 MTNL and VSNL were partially privatized by the DoS. However, in respect to BSNL the Minister for Communications & IT Mr. Dayanidhi Maran stated as recently as August 2004 that the Central Government had no plans for privatizing the incumbent in the near future. In any case, recent press reports suggest that currently the Central Government is examining the feasibility of merging MTNL and BSNL[106].

A review of 'telecom statutes' must necessarily discuss the Communications Convergence Bill 2000 which was tabled in Parliament to replace the Information Communications & Entertainment Bill, 2000 (ICE Bill) and repeal all the telecom statutes discussed earlier. The object of the Bill was to establish a structured mechanism to promote, facilitate and develop in an orderly manner the carriage and content of communications in a scenario of increasing convergence of technologies. Communications were construed to include broadcasting, telecommunications and multimedia. The Bill proposed to combine and bring under its purview the Communications Commission, licensing and registration powers and the regulatory mechanisms for the telecom, broadcasting and information technology sectors. The draft Bill was debated inconclusively in the Parliament Consultative Committee on

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[103] Secretary, Department of Telecommunications also functions as Chairman Telecom Commission of India.

[104] MTNL, supra note 50 at 22 and

BSNL, supra note 51 at 22

[105] VSNL (Videsh Sanchar Nigam Limited) is the international long distance service provider. In 2002 DoT privatized VSNL by disinvested 74% equity to a strategic partner M/s Tata Teleservices Limited, www.vsnl.com . [VSNL]

[106] Manoj Gairola , 'BSNL may buy govt's 52% in MTNL', The Economic Times Online, dated 11th February 2005, www.economictimes.com (accessed on 11th February 2005)

Communications but never came up for legislation. The Bill lapsed when Parliament was dissolved prior to the General Elections in the country.[107]

In conclusion, it is clear that the basic and inherent flaw in the legal framework is the continued attempt of the Government of India to govern various specialized forms of satellite telecommunication services under the single outdated umbrella legislation the Indian Telegraph Act, 1885. The urgent need is to change from a 'telegraph' to 'satellite telecommunications' mindset.

4. THE TELECOM REGULATORY AUTHORITY OF INDIA

The genesis of the Telecom Regulatory Authority of India ("TRAI") which lies in the bidding process for the grant of cellular licenses, the litigation that followed the grant of the first set of cellular licenses under the Telecom Policy 1994[108] and all subsequent developments have already been dealt with in the previous section.[109] However, it is relevant to understand how TRAI functions and whether it functions an effective regulator within the constraints of the 1997 TRAI Act which governs it[110].

(a) Recommendatory Functions

Section 11 [111] requires the Telecom Regulatory Authority to make recommendations either *suo moto* or at the request to the licensor (DoT)[112] on the following matters:

(i) *Need and timing for introduction of new service provider*[113]: The Act is silent on what criteria must be studied by TRAI on the basis of which recommendations should be formulated. While this could be seen as limiting its functioning, TRAI has adopted a proper pro-active approach based on the principles of administrative law while at the same time keeping in mind commercial considerations. It not only analyzes the impact of

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[107] Prof. Ram Jakhu ," A Brief Analysis of the Indian Communications Convergence Bill (2000)", www.law.mcgill.ca/csri/paper-jakhu-analysis.php.3 (McGill CSRI)

[108] *Delhi Science Forum,* supra note 54 at 23.
[109] Refer Chapter III sections on (i) Policy Framework pp 23-25 and (ii) Legal Framework pp.28-32 above for details on genesis of TRAI.
[110] TRAI Act 97, supra note 55 at 23.
[111] *ibid.* Chapter III, Section 11.
[112] *ibid.* Proviso to Section 11 "Within 60 days".
[113] *ibid.* Section 11 (1) (a) (i).

the introduction of a new licensee on the existing licensees but also seeks consultation[114] with all stakeholders, affording them an opportunity to submit their objections, if any, for due consideration before submitting recommendations to DoT. However, it is important to note that the Act has no specific requirement for TRAI to hold prior consultations or analyze the impact of the introduction of a new licensee on the financial viability of the existing licensees.

(ii) *Terms and conditions of license to a service provider* [115] : The language seems to imply that TRAI can recommend the actual terms under which a license should be granted in terms of section 4 of the Indian Telegraph Act, 1885[116]. The Act is silent, offering no guideline on the minimum standard for terms and conditions that should be attached to a license. For example, some critical issues that need clarification are whether terms of a license should seek to negate the unfair advantage which an incumbent may have by enabling access to the incumbent network and whether terms of a license should seek to ensure service to consumers at an affordable price without jeopardizing the financial viability of the license roll out.

(iii) *Revocation of license for non-compliance of its terms and conditions*[117]

The section does not provide the basis for determining 'non-compliance'. The section does not require a licensee to file annual compliance report either with DoT or TRAI to provide the basis on which TRAI could exercise the right to monitor the licensee. Nor is there a provision requiring TRAI to analyze the response from an alleged non complaint licensee, for allowing such a licensee to be heard, for assessing the impact of termination of license on existing subscribers and lending agencies to the project, nor any indication of how to arrange for an alternate service provider to serve consumers consequent to termination of an existing license. Additionally, a recommendation for revocation of license by TRAI is of no real value because is not binding on the DoT which also

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[114] *ibid.* TRAI issues Consultation papers on various issues and publicly announces open house discussions sessions with interested parties in the metro cities.
[115] *ibid.* Section 11 (1) (a) (ii).
[116] ITA 1885, supra note 25 at 8, refer to Section 4 (1) which states, *inter alia*,".. Within India, the Central Government, shall have the exclusive privilege of establishing, maintaining and working telegraphs: *Provided* that the Central Government may grant a license, on such terms and conditions on consideration of such payment as it thinks fit, to any person to maintain or work a telegraph within any part of India."
[117] TRAI Act 1997, supra note 55 at 23. See Section 11(1) (a) (iii).

functions as the Licensor[118]. In other words, TRAI is reduced to issuing regulations without any power to effectively ensure compliance while DoT as the licensor has jurisdiction to revoke a license at its discretion. Because checks and balances are imperative in such a vital matter are critical urgent rectification of this lacuna is required.

(iv) *Measures to facilitate and promote efficiency in the operation of the telecom services as to facilitate growth in such services*[119]:

This is an enabling provision. For example, recommendations by TRAI in respect to Accelerating Growth of Internet & Broadband Penetration[120] were accepted with some qualifications and the Broadband Policy 2004 was notified in September last. On 31st May, 2004 TRAI has issued the "Consultation Paper on Spectrum related issues: Efficient Utilization, Spectrum Allocation & Spectrum Pricing". Such consultation papers are the first step towards formulating policy recommendations for consideration by DoT.

(v) *Technological improvements in the services provided by service providers*[121]

This provision casts TRAI in the role of an active observer of the sector. It provides a gateway through which the regulator can make recommendations for creating a legal framework appropriate for the Indian telecom sector in response of technological developments worldwide. However, the adverse implication of this power is that in the absence of appropriate checks and balances it could expose a licensee to a risk of being directed by TRAI to change completely the technology it currently deploys for the license rollout, without prior consultation and with no recourse if such action should negatively impact the financial viability of its project. Furthermore the provision does not contain any guarantee for ensuring subscriber interests.

(vi) *Type of equipment to be used by the service providers after inspection of equipment used in the networks:*

This provision carries inbuilt guideline for *'inspection of equipment used in the networks'*. But the scope of the provision is unclear. Does it refer to inspection equipment used only in telecom services, in general, or of specific licensees as well? The

[118] *ibid,* Section 11, First Proviso.
[119] *ibid.,* Section 11(1) (a) (iv).
[120] RGIB 2004, supra note 21 at 8.
[121] TRAI Act 97, supra note 55 at 23. See Section 11(1) (a) (viii).

difference in the phrases used in this and the subsequent provision, i.e. *'telecommunications industry in general'* gives rise to the ambiguity and needs to be clarified.

(vii) *Measures for development of technology and any other matter relatable to the telecommunications industry in general:*

This provision enables TRAI to make recommendations with a view to encouraging R&D within the country, importing technology where required and inviting investment within current FDI limits. However, there is no indication of guiding criteria for such recommendations.

(viii) *Efficient management of available Spectrum*: The term 'spectrum' is mentioned in only two documents of the entire legal framework that governs the telecom sector in India. First is a mention of 'spectrum' in NTP 99 and second in this sub-section under review. However, the 1997 TRAI Act, 1885 Indian Telegraph Act nor 1933 Wireless Telegraphy Act contain a definition of spectrum. TRAI neither 'manages' nor 'allots' Spectrum which remains in the purview of DoT.

The Regulator submitted its Spectrum Policy Recommendations[122] to DoT for consideration. The recommendations are based on Government's objective of achieving a target of 200 million mobile phones by 2007. The TRAI anticipates that spectrum availability will be a "major bottleneck beyond 2007 impacting quality of service in high service areas" which is bound to adversely impact achievement of the said target. It is stated that even the present level of spectrum allowed to mobile operators is much below international average. The TRAI has made several recommendations for a strategy to ensure availability of adequate spectrum to operators to enable them to engage in long term spectrum efficient planning, reduction of spectrum charges to 4% AGR from the present rate of 6% AGR in order to reduce input cost of telecom services so as to increase coverage in semi-urban and rural areas and ensuring roll out of 3G services. TRAI has also recommended change of procedures for allocation, technology neutral roll out, urgent review of current spectrum policy.

[122] TRAI press release 43/2005 www.trai.gov.in

(b) Regulatory Functions

Section 11(b) enumerates the regulatory functions of TRAI

(i) *Ensure compliance of terms and conditions of license*[123]

The scope of this provision is severely limited by the absence of jurisdiction to enforce compliance of the terms and conditions of licenses. TRAI does not have a monitoring mechanism or the right to cancel license. It can only issue guidelines which licensees are required to comply, although in case of infringement, its recommendation for canceling the license is not binding on DoT. In any case, TRAI[124] is empowered to pass directions for cancellation of license for infringement of its terms only against the service provider, i.e. the licensee or persons in charge of the service providers and not against the Licensor, i.e. the DoT. This is a serious infirmity that prevents TRAI from discharging its basic function effectively qua the licensee and licensor.

(ii) *Fix the terms and conditions of interconnectivity between the service providers;*

(iii) *Ensure technical compatibility and effective interconnection between different service providers*[125]*; and*

(iv) *Lay down and ensure the time period for providing local and long distance circuits for telecommunications between different service providers*[126] :

TRAI is empowered to fix the actual terms and conditions for interconnectivity (rather than just recommendatory principles) which is a significant departure from the position under the NTP 1994 which had vested this power in the Central Government. Here again the TRAI Act 1997 does not lay down any specific guidelines for procedures or criteria which TRAI must consider in fixing terms and conditions. The difficulty arises, therefore, because interconnection agreements between service providers are not yet recognized as commercial agreements within the framework of current applicable law, thereby inhibiting the ability of service providers to obtain project finance. This is a serious lacuna that requires serious consideration.

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[123] TRAI Act 97, supra note 55 at 23. See Section 11(b) (i). Also see Section 11(1) (a) (iii).

[124] *Ibid.* Section 13 read with sections 29 &30.
[125] *Ibid.* Section 11(b)(iii)
[126] *Ibid.* Section 11(b)(vi)

(v) *Regulate arrangements amongst service provider for sharing revenue derived from providing telecommunications*[127]

The ambit of this provision is not clear. Does it imply that service providers must seek prior consent of TRAI to enter into revenue sharing arrangement? In the absence of a clear indication, the implication is that the regulator can direct service provider, without prior consultations with them, to alter terms and conditions and revenue sharing% of arrangements already concluded.

(vi) *Lay down the quality of service to be provided by the service provider to ensure the quality of service conduct periodic survey of such service provided by the service providers so as to protect the interest of the consumers of telecommunications*[128]:

The terms of this provision indicate an inherent conflict between the power of TRAI and the power of DoT as the Licensor, to lay down specific terms and conditions as to the quality of service to be provided by the licensee. Nor does the Act contemplate any procedure to settle conflict should there be discrepancy between the actual standards laid down by DoT and TRAI. *'Protection of consumer interest'* is the only guideline which the Act lays down to assist TRAI in discharging of its function under this provision. There is no direction to TRAI to consider the technical viability of the standard of service, to the financial viability or at ability of the service provider to meet standards set out by the TRAI should these differ from terms and conditions of license stipulated by DoT. Question that inevitably arises is whether TRAI has power to supersede the DoT as licensor on grounds of *'protection of interest of consumer'* if standards for quality of service stipulated by TRAI are different than those by DoT?

In this context TRAI has submitted recommendations for instituting the Office of Ombudsman for the telecommunications sector for consideration by DoT on 10th August 2004[129]. The accompanying Consultation Paper has taken into consideration views of stakeholders, including service providers and consumers to ascertain the need for such a mechanism. The paper also analyzed systems available in telecommunication industries in Australia and the UK and also in the banking and insurance sectors in India which have such provision.

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[127] *ibid.* Section 11(b) (iv).
[128] *ibid.* Section 11(b)(v).
[129] Document in reference to Recommendations on Establishment of Office of Ombudsman in the Telecommunications Industry, 10th August 2004, *www.trai.gov.in/recommendations.*

(vii) *Maintain register of inter- connect agreements and all such other matters as may be provided in the regulations*[130] :

'Other matters' could mean revenue sharing arrangements between service providers. TRAI is required to keep all such registers open for inspection by any member of the public on payment of such fee and compliance of such other requirement as may be provided in the regulations.

(viii) *Ensure effective compliance of the Universal Service Obligation*[131]:

This provision is perhaps the least debated but with the greatest potential for raising controversy. Because telecommunications[132] is an important tool to achieve economic development and the success of USO is seminal to that effort. Unfortunately the reference to USO in NTP 99 does not clearly define what constitutes 'universal service obligation' or indeed which specific services are to be covered in USO. A paper of the European Commission[133] defines 'universal service' as a 'defined minimum set of services of specific quality which is available to all users independent of their geographical location and at an affordable price.'

It is only as recently as January 2004 that Parliament enacted the Indian Telegraph (Amendment) Act, 2003 to provide a legal framework for the USO and to establish a non lapsable USO Fund. Thereafter on 26th March, 2004 the Central Government notified the Indian Telegraph (Amendment) Rules, 2004 to enable disbursement of subsidy from USO Fund to compensate private service providers for the cost of providing service roll out in remote and inaccessible regions in the country. The first USO tender was floated in August 2004 and awarded in September 2004[134]. Thus the Government has finally rectified the deadlock that has been the root cause for failure of the USO roll out, low tele-density and persistent digital divide in the country.

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[130] TRAI Act 97, supra note 55 at 23. See Section 11(b) (vii).
[131] *ibid.* Section 11(b) (viii).
[132] UNMDG, supra note 6 at 4. The Goals acknowledge ICT as a cardinal tool for economic development around the world and encourages countries to adopt appropriate strategies domestically.
[133] European Commission, document in relation to Telecommunications, EC COM (96) 608 dated 27-11-1996, www.europa.eu.int
[134] BSNL has been awarded 66% and Reliance Infocomm Limited 34% of the tendered volume for providing rural telephony, www.dot.gov.in

5. EVALUATING THE REGULATOR

Because regulatory management is the largest value creator, the role of TRAI is the single most important factor that will shape the future telecom landscape in India. For this reason, it is the yard stick[135] against which we must evaluate whether or not TRAI has enabled growth of the telecom sector in the country. The generally accepted benchmarks are (i) Level Playing Field; (ii) Inter-Connect between Incumbents' networks and new networks; (iii) Allocation of Frequency; and (iv) Statutory Clearances.

Measured against those benchmarks, we find that before actually commencing commercial operations under the present structure, an individual/company desirous of operating as a telecom service provider in India is required to obtain four separate permissions/clearances/licenses from an equal number of separate agencies[136]. These are:

(a) *Service License*

This is the license granted to an applicant by way of permission to establish, operate and maintain a 'telegraph' for the purpose of operating as a telecommunications service provider by the Department of Telecommunications in terms of section 4 of the Indian Telegraph Act, 1885.

Telecommunications is perhaps the only industry where a new private entrant commences operations with twin disadvantages of: (i) being completely dependent on the incumbent's network and (ii) being faced with immediate unfair competition from the incumbent service provider. Therefore the critical benchmark issue is whether or not the service licenses are allowed to operate on level playing field, particularly in context to interconnectivity[137] since financial viability and actual value of a network comes only from interconnectivity to and through the incumbent's network. Therefore, we must evaluate this matrix in context to whether private service providers can access incumbent networks with ease at reasonable cost.

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[135] Chapter II, supra page 10 following, See pp. 17- 28.
[136] Joshi *"Law"*, supra note 27 at 10, pp.374 following.
[137] TRAI document relating to 'Introduction of Competition in Long Distance Communications', Consultation Paper 99/1,dated 16th June, 1999, www.dot.gov.in.

The *Point of Interconnection* (PoI) is the physical point of demarcation between the networks of the two service providers[138], where calls from one network are handed over to the other. There are two kinds of interconnectivity. The first is *Access Interconnection*, wherein two service providers agree to provide to each other the facility for calls to originate in one's network and end or terminate in the other's network. Thus the *Originating & Terminating Access Interconnection* could have the following elements: (i) Access via pre-selection or access codes for originating access and access for calls forwarded for termination in the network; (ii) Location of Point of Interconnection;(iii) Forwarding calls beyond Point of Interconnection; (iv) Signaling between the networks; (v) Provision of switch ports; (vi) Fault handling; (vii) Billing. The second is the *Transit Interconnection* which enables calls originating and terminating in one network to be routed through the other's network because that may either be the shortest, most efficient or the only way in which to carry the call.

Because at the start of market liberalization an incumbent service provider has monopoly over both the network and subscribers, interconnection with the incumbent network is critical for the successful implementation of a new project. Thus, effective interconnection must comprise technical and commercial arrangements. In other words, the interconnecting service provider (incumbent) must guarantee interconnection which is reasonably priced and non-discriminatory. This is very important because incumbent service providers have inherent advantage over required facilities in terms of demarcation of points of interconnection, quality of service given to subscribers of the other networks, occupation of viable right of way, location for exchanges and telecom equipment.

Therefore, it is paramount that legal framework intervene to ensure a level playing field for a new entrant if telecom roll out is to be successful and viable. Sadly, in India the legal frame work failed to ensure that until the very recent past[139]. The Central Government allowed its concern for 'notional loss of revenue' consequent to market

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[138] TRAI Act 97, supra note 55 at 23.
See Section 2(1)(j) which defines "service provider" and sub section (1) (e) which defines "licensee".
[139] ADD, supra note 14 at 6. The policy has signaled the introduction of License for Unified Access for Basic & Cellular Services and License for Unified Telecommunication Services postulating equitable access to incumbent's networks and technology neutral service.
Also see discussion in Chapter III, section on Legal Framework at pp 28-32 about infirmity in the Indian Telegraph Act 1885 which protects incumbent and does not allow for level playing for private service operators.

competition to dominate its decisions in the matter. This prevented the terms and conditions of interconnection to be structured on a sound negotiated commercial basis. Consequently, the two cardinal issues of interconnection pricing and establishing of a clear billing and payment mechanism are yet to be resolved.

Therefore, the first issue is to arrive at the "correct" price. While on the one hand the incumbent does not want to loose its comparative advantage, it is equally true that if interconnection price is very low, it leaves a new entrant with low motivation to develop his own network infrastructure. The amended 1997 TRAI Act vests the regulator the right to ensure efficient interconnectivity[140].

Aware that its ability to function effectively can alone correct distortions, TRAI notified the 'Telecommunication Interconnection (Reference Interconnect Offer) Regulation 2002'[141] The Regulations stipulate that telecom service providers who hold significant market power (30% in a telecom circle for that service) will formulate and publish a Reference of Interconnection (ROI) detailing therein details of the terms and conditions for offering interconnection to its network. Other service providers seeking interconnection could thus choose to accept the ROI which would form the basis of the Interconnect Agreement between the two service providers. TRAI has also issued a model interconnect agreement for guidance. Such agreements are required to be entered into the register maintained for the purpose by TRAI[142]

(b) *WPC License*[143]

The Wireless Planning & Coordination (WPC) Wing in the Ministry of Communications is responsible for frequency spectrum management and is the national radio regulatory authority including licensing of frequency spectrum. WPC Wing exercises statutory power of the central government to issue licenses responsible for establishing, operating and maintaining wireless stations. The WPC wing has recently commissioned the Automated Spectrum Management System (ASMS) for receiving online applications for

[140] TRAI Act 97, supra note 55 at 23. See Section 11(1) (b) (ii)(iii)(v) (vi)(vii) and section 14(a).
[141] TRAI document relating to *Telecommunication Interconnection (Reference Interconnect Offer) Regulation 2002*, www.trai.gov.in.
These regulations are revised from time to time and have brought down the ADC rate appreciably.
[142] TRAI, document relating to Model Inter-Connect Agreement, www.dot.gov.in
[143] WPC Wing, supra note 77 at 28

grant of license. It is, however, required for the applicant to furnish a hardcopy of details for each site together with a site map to the WPC wing together with a fee of about US$ 25 per site.

(c) *SACFA Clearance*[144]

In India the Standing Advisory Committee on Radio Frequency Allocation (SACRFA)[145] in the Ministry of Communications, is responsible formulation and updating the National Frequency Allocation Plan, for allocation of appropriate frequency spectrum to service providers and other users, for matters pertaining to coordination for frequency allocations and other related issues and for resolving disputes between wireless users.

This 'Clearance' which is granted by the Standing Advisory Committee on Frequency Allocation (SACFA), Department of Telecommunications, Ministry of Communications is the approval required for use of appropriate frequency spectrum for wireless equipment at a specific sites. The new Automated Spectrum Management System also receives on line applications for grant of frequency from SACFA.

In other words the grant by DoT of a license under section 4 Indian Telegraph Act, 1885 is not an assurance for either the allocation of appropriate radio frequency or grant of license for specific sites for establishing wireless equipments. Clearances from SACFA are essential not only for aviation navigational requirements but also because they enable agreement between major wireless users in respect to proposed locations for the fixed antenna from the point of view of compatibility to other radio systems. SACFA clearances involve interdepartmental coordination and grant of license by DoT under the 1885 Telegraph Act and by WPC Wing in respect of frequency allocation and specific sites are in no way a guarantee that the applicant will receive SACFA clearances within any defined timeframe. Thus we may safely conclude that delay in grant of license by WPC Wing and clearances by SACFA have delayed the implementation of NTP 99 and are a major cause for loss of revenue in the telecom sector as a whole. It is expected that the new automated spectrum management system which receives online applications for

[144] SACFA, supra note 76 at 28
[145] Standing Advisory Committee on Radio Frequency Allocation in the Ministry of Communications, www.dot.gov.in [SACRFA]

both the WPC Wing License and SACFA clearance will reduce the time taken for obtaining licenses from the present six months.

Electromagnetic spectrum is classified worldwide as a limited natural resource that must be used efficiently, rationally & economically. 'Spectrum Management' is subject of international concern and the UN through the ITU is seized of the matter[146]. Over the years a whole new body of law, at both the international and domestic levels has grown around the allocation and management of spectrum. Yet current laws that govern telecommunications in India do not define the term 'electromagnetic spectrum'. There is an oblique reference in NTP 99 which deals specifically with the 'management of electromagnetic spectrum'[147] and in the 2000 TRAI (Amendment) Act which empowers the regulator to make non-binding recommendations on the subject to the DoT. In fact, Guidelines for the Issue of License for National Long Distance Services[148] is the only document which gives indication of the basis on which the WPC Wing determines the quantum of royalty/fee payable by the licensee[149]& [150].

In this context, it would not be out of place to make a reference to the *obiter dicta* in a landmark judgment of the Supreme Court of India on the use and allocation of electromagnetic spectrum, because it is indicative of the direction in which

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[146] Regulatory framework for satellite communications are provided partly by UN treaties on activities in outer space and partly by International Telecommunication Union's Radio Regulations (ITU-RR). These regulations are observed by all ITU Member administrations including India. India thus maintains the National Frequency Allocation Plan which is revised after Radio Regulation Conferences held every two years. In respect to permission to establish private satellite systems, the satellite operator is represented by the Ministry of Communications at the ITU and Radio regulation Conferences.

[147] NTP 99, supra note 13 at 6. See Clause 5 which reads as under:
"With the proliferation of new technologies and the growing demand for telecommunication services, the demand on spectrum has increased manifold. It is, therefore, essential that spectrum be utilized efficiently, economically, rationally and optimally. There is a need for a transparent process of allocation of frequency spectrum for use by a service and making it available to various users under specific conditions."

[148] DoT, document in relation to Guidelines for issue of License for National Long Distance Service, www.dot.gov.in [Guidelines NLD]

[149] *Ibid,* ."The fees/royalty for the use of spectrum/ possession of wireless telegraphy equipment depends upon various factors such as frequency, hop and link length, area of operation etc....."

[150] *Ibid.* See also Hindustan Times of India dated 31st May 2004 citing Press Trust of India news report "The present networks were evaluated against various possible theoretical benchmarks and initial assessments suggest that in a number of networks there is scope for improvement of spectral efficiency. Favoring release of more spectrum to cellular operators in the country, TRAI said appropriate pricing and efficient use of this scarce resource are vital for the growth of the telecom sector. International experience suggests that greater amount of spectrum has been allocated in other countries, it said in its paper, adding, in India cellular operators have been allocated spectrum varying from 2x2.5 to 2x10 MHz. Some countries are also using bands other than 800 MHz, 900 MHz and 1800 MHz such as 450 Mhz,1900 MHz for cellular operations", www.hindustantimes.com (accessed on 1st June 2004).

telecommunications law is developing in India. In *Secretary, Ministry of Information & Broadcasting v. Cricket Association of Bengal*[151] their Lordships declined to bring *"air waves"* within the ambit of Article 19 (1)(a) of the Constitution of India[152] holding instead that *" air waves"* constitute *"public property"* which must be used only for *"public good"* . The implication of this decision is far reaching. It struck down an attempt by the Respondents Cricket Association of Bengal to establish a right to private ownership of airwaves by trying to cloak it as a violation of the constitutional guarantee of freedom of speech and expression defined in Article 19 (1)(a) because they had been refused the permission to telecast live a cricket match by Appellants Ministry of Information & Broadcasting. Rejecting the Respondents, Supreme Court of India held that a citizen could make use of airwaves for broadcasting only when allowed to do so by statute and in accordance to provisions of such statute.

(d) *Right of Way Clearance(s)*

This is the grant of right of way for the proposed route along which the telecom network is sought to be established by the licensee. Indeed, it needs no reiteration that the telecommunications is perhaps the only infrastructure that does not require large tracts of land *per se.* What is critical to the establishment of a telecom network is acquisition of easement rights to enable laying down telecommunication wires, optic fiber cables or some other kind of cable medium[153]. It is obvious that it would be both economical and efficient to lay telecom cables along side or together with other infrastructure like roads and highways, oil /gas[154]/water pipelines, railway tracks and electricity transmission lines.

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[151] *Secretary, Ministry of I&B*, supra note 68 at 26.
The Respondent had sought direction from Supreme Court to establish the position that use of air waves came within the ambit of Article 19(1) (a) of the Constitution of India, as he could not exercise his fundamental "right to freedom of speech and expression" unless he could establish his "ownership" of airwaves and putting it to such use as he wished. The Court held that "air waves" were public property and could be controlled and regulated only by a "public authority".

[152] Constitution of India, Article 19(1)(a) guarantees all citizens the fundamental "right to freedom of speech and expression...." http://indiacode.nic.in/coiweb/ [Constitution]

[153] Joshi, *Law*, supra note 27 at 10.

[154] The Hindustan Times dated 25th May, 2004 citing Press Trust of India news release stating therein that the "State- run GAIL (Gas Authority of India Limited) which has laid a vast network of fiber optic cables along the gas pipeline grid it operates, will sell bandwidth to newspapers, news agencies and TV channels at a 70 percent discount. GAILTEL, GAIL's subsidiary for the telecom business, has been leasing

The 1885 Telegraph Act empowers the Telegraph Authority, i.e. the Central Government to place and maintain telegraph lines under, over, along or across and maintain telegraph lines and posts in and upon an immovable property.[155] It can exercise this right subject to certain *provisos* which postulate that the Telegraph Authority shall not acquire any right other than 'user' in the property under[156], upon, over, across or along which it lays telegraph lines nor acquire rights in such properties as are vested or under the control of or management of State Authorities[157]. Furthermore the Authority must fully compensate all interested parties for such damage as may be caused and it is incumbent on the Authority to exercise due care to ensure minimal damage[158].

In context to enabling private service operators obtain right of way, section 19B of the Telegraph Act[159] is relevant because it empowers the Telegraph Authority to delegate its powers to a licensee in terms of section 4 of the Act, subject to such restrictions and conditions as deemed fit in the case which have to be notified in the Official Gazette of India. However, the Telegraph Authority has vested power in licensees who are authorized basic telephone service providers to seek leave for right of way from a local authority[160] or any person including a public authority, public corporation, autonomous body, state government or central government[161] to (i) place and maintain telephone lines under, over, along, across and posts in or upon property vested in or under the control of or management of the concerned local authority or owner and (ii) to enter the property under, over, along, across in or upon which the line or post has been placed in order to

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bandwidth to phone service providers like VSNL, Tata Teleservices and Escotel. It is now tapping the print and electronic media to expand its business...."
The report further states, " GAIL has been unable to make headway in getting business from print media and TV channels as it earlier offered only 54.5% discount over the TRAI approved rates. BSNL, on the other hand, offered a discount of 66.67%. In order to take on BSNL and other competitors who have wider geographical presence and can offer multiple links, GAIL will have to aggressively price the services offered to this segment by offering higher discounts" www.hindustantimes.com (accessed on 26th May, 2004)

[155] ITA 1885, supra note 25 at 8, Section 10 (a)

[156] *Ibid.* Section 10 (b)

[157] *Ibid.* Section 10 (c)

[158] *Ibid.* Section 10 (d)

[159] *Ibid.* Section 19B,

[160] TRAI, document relating to Notification on 'the power to seek right of way leave from a local authority', Standing Order 646 (E) , Ministry of communications (Dept. of Telecommunications) Licensing Group (Basic Service Cell), dated 9th September 1997, www.trai.gov.in [TRAI Notification 9th September 1997]

[161] TRAI document relating to notification Standing Order 382 (E), Ministry of Communications (Dept. of Telecommunications), Licensing Group (Basic Service Cell) dated 24th May 1999 on 'larger power to seek way leave from any person and/or other authorities including the state government and the central government', www.trai.gov.in [TRAI Notification 24th May 1999]

examine, repair, alter or remove telephone lines or posts established or maintained by the licensee. Thus the notifications issued on 9th September 1997[162] and 24th May 1999[163] established the legal basis in terms of which a licensee is granted the right to seek permission for 'right of way' for his network.

The 1999 New Telecom Policy makes specific reference to the 'Right of Way'[164] even though it does not provide for delegation of power to the licensee. Instead NTP 99 puts the onus on the local authorities and bodies to provide the right of way to licensees.[165] For example, NTP 99 directs relevant agencies to enable network roll out[166] in the case of National Long Distance Service[167] providers for whom right of way depends on the route along which the network is to be laid out. Thus, if the network is to be laid out along the national highways, a licensee will file application before the National Highway Authority of India (NHAI) or State Highway Authority or before the State Electricity Boards (SEB) if the electricity transmission line routes are the proposed route. It follows, therefore, that a licensee would have to approach several states authorities if the network spread across more than one state[168].

Thus we can conclude that the present regime imposes the entire risk, in terms of time, opportunity and costs solely on the licensee resulting in cost overruns for the project. It is, therefore, suggested that in the interest of timely roll-out of telecommunications network in India, the Central Government should resolve this problem by creating a single legal framework to govern various aspects involved in obtaining 'right of way' and delegate of its authority under the relevant provisions of the Indian Telegraph Act,

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[162] TRAI Notification 9th September 1997, www.trai.gov.in
[163] TRAI Notification 24th May 1999, www.trai.gov.in

[164] NTP 99, supra note 13 at 6. See Para 8.8.
[165] *Ibid.*, refer Para 8.8 "Right of Way: Government recognizes that expeditious approvals for right-of-way clearances to all service providers are critical for timely implementation of telecom networks. The Central/State Governments/Local Bodies, Ministry of Surface Transport etc. shall take necessary steps to facilitate the same."
[166] NTP 99, supra note 13 at 6. See Para 3.5 relating to National Long Distance Service: "..... Usage of the existing backbone network of public and private power transmission companies/railways/GAIL/ONGC (Oil & Natural Gas Commission) etc. shall be allowed immediately for national long distance data communication and from January 1, 2000 for national long distance voice communication."
[167] National Long Distance Service was opened w.e.f.1st January 2000, pp168-170, [Handbook].
[168] Other infrastructure projects that also depend on Rights of Way are pipeline projects, roads & highway projects, water projects and railway projects.

1885 to the licensee. Nor would it be out of place to suggest that the Central Government should create a 'single window' clearance mechanism to facilitate licensees.

5. FOREIGN DIRECT INVESTMENT

In the context to conditions attached to all categories of licenses two important issues that have been the subject of debate in the country are norms governing foreign direct investment permitted in the telecom sector and the administration of USO levy.

In April 2005 limit for foreign direct investment (FDI) in the telecom sector for all categories of services providers was enhanced from 49% to 74% except for infrastructure providers in Category I who are permitted 100%. The permission comes with compliance requirements: (i) Indian promoter must have at least 10% equity in the licensee company; (ii) indirect foreign investment[169] to be counted within the 74% ceiling; (iii) license to be cancelled if conditions are breached; (iv) at least 50% of directors on the board must be resident Indians; (v) only Indians can hold key management positions (vi) calls between subscribers within India cannot be routed out.

In respect to Foreign Technology Agreements[170] [171] the Reserve Bank of India[172] (RBI) accords automatic approval to foreign subject to (i) lump sum payment not exceeding US$ 2 million and (ii) royalty of 5% net of taxes on domestic sales and 8% net of taxes on exports, subject to a total payment of 8% over a period of 10 years from the date of approval of collaboration agreement or 7 years from commencement of business. Applicants are required to file their applications to the regional offices of the RBI.

6. METHODOLOGY FOR FUNDING USO[173]

In context to the methodology employed by the Central Government to fulfill the USO, the license condition imposing mandatory service roll out into remote and under served parts has been repeatedly questioned by the private service providers. Firstly, because the incumbent BSNL which has operated under a unified access license from its inception is

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[169] NRI Non Resident Indian)/ OCB (Overseas Corporate Body)/ International Funding Agency
[170] Exchange Control Manual 2003, Application to RBI must be made in Form FT (RBI) with the concerned Regional Offices of the reserve Bank of India, www.rbi.org.in, [ECM2003].
[171] *Ibid.*,Technology Collaboration Agreements in the telecom sector will fall under this category.
[172] *Ibid.*
[173] ADD, supra note 14 at 6

exempted from paying USO levy while private operators had to obtain separate licenses for different service categories are required to pay it as part of licensee fee. Secondly and more importantly because the Central Government failed to disburse the promised USO subsidy to private service providers to compensate them for costs involved in providing service to remote and inaccessible regions of the country. The service providers, therefore, responded by willfully defaulting in fulfilling their commitment to USO roll out which is a mandatory condition attached to every license. This was critical because the license fee imposed on the different service categories is inclusive of % wise contribution towards the USO Fund. It has already stated that that USO Fund became effective only as recently as March 2004. Consequently in August 2004 Administrator USO Fund issued the first ever USO Tender for providing rural telephony. The Tender was awarded after due scrutiny in September 2004 to the extent of 66% to BSNL and 33% to Reliance Infocomm Limited[174]. In light of these events it is tempting to say that the willful disregard of the Central Government in the matter of a functioning USO Fund has be the single most important cause for the failure of the USO roll- out in India.

7. TELECOM SERVICES UNDER LICENSING REGIME[175]

Until the recent introduction of the Unified Access Service License (UASL) regime, the telecom sector in India operated under service specific licenses. The UASL regime has resulted in the consolidation of basic and cellular service licenses. The proposed implementation of the Unified Telecom Service license regime will further reduce number of licenses into only four classes of license categories. Placed below is the current applicable license regime that governs the telecom sector in India.

(a) Terms and conditions common to all categories of licenses

(i) The applicant must be an Indian company registered under the Companies Act, 1956;

(ii) Licenses are technology neutral;

(iii) Licensee is required to pay a one time non-refundable entry fee;

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[174] Department of Telecommunications, document relating to USO Tender and its Award, www.dot.gov.in/tender [USO Tender].
[175] Handbook, supra note 81 at 29

(iv) Licensee to pay license fee based on revenue share basis at a specified percentage of the Adjusted Gross Revenue (AGR) which includes contribution towards USO, R&D, Administration and Regulation;

(v) Licensee to pay Spectrum Charge;

(vi) Licensee to pay Interconnection Usage Charges or Access Deficit Charge (ADC) to incumbent BSNL at rates notified by TRAI from time to time in Regulations for the purpose[176];

(vii) Period of validity of a license is fixed at 20 years renewable for an additional period for 10 years;

(viii) Licensee must commit to USO in terms of proposed service roll out plan in four phases to be submitted to DoT, stating therein the *modus operendi* of providing service to uneconomical and remote parts in specific service areas. The said USO roll out by private service providers is subsidized out of the USO Fund;

(ix) Licensee to submit Performance Bank Guarantees of specified amounts liable to be forfeited in the event of non-fulfillment or deficiency in the service roll out;

(x) No restriction as to the number of licenses that can be issued;

(xi) An applicant company is permitted 74% foreign equity during the entire license period, however, infrastructure providers are allowed up to 100% foreign equity.

(b) Categories of licenses

The telecommunications sector operated under a service specific license regime from its inception in 1994 until 2003. However, recognizing the rapid evolution of telecom technologies, increasing bandwidth capabilities, embedded intelligence elements in all types of carriage media, possibilities of innovative services through software control, both by the operator and user and the blurring the boundaries between different services

[176] TRAI document relating to Telecommunication Interconnection Usage Charges Regulation No. 409-8/2004-FN dated 6th January 2005 came into effect on 1st February 2005 is the latest in the series of such regulations. www.trai.gov.in .

owing to 'the death of distance' resulting from increasing use of IP technology, the Central Government accepted that there was urgent need to establish service and technology neutrality in the licensing regime. The objective was to facilitate flexible entry and operations. This is similar to the situation in several countries which have prepared their regulatory regime to deal with technological and other developments that provide for a convergence of technology & services. Thus a new Unified Licensing Regime was envisaged to enable service providers offer any or all services, using technology of choice with an area of operation such as to promote greater participation by entrepreneurs, big and small.

Consequently, on 11th November, 2003 the Central Government announced a cardinal shift from the existing license regime which was outlined in the 2003 Addendum to NTP-99[177] in conformity with the recommendations made to it by TRAI on 27th October 2003[178] in respect to unified licensing. TRAI has recommended a two-stage process for introducing a unified licensing regime to pave the way for the convergence of the telecommunications and broadcasting sectors in India. Additionally, the notification of the Broadband Policy 2004 by Central Government will facilitate successful implementation of a unified licensing regime. Among its other features the Broadband Policy has reduced license fee as well as quantum of Performance Bank Guarantee to US$ 50 million from US$100 million for infrastructure providers in Category-II because they provide end to end bandwidth and it has de-licensed terrestrial wireless in the 2.40 – 2.48GHz frequency for low power indoor applications on a non-protection, non-interference and non-exclusive basis. Furthermore the latest Regulation on Interconnection Usage Charges which came into effect on 1st February 2005 drastically reducing the ADC payable to BSNL has been welcomed by the industry as the right step in creating level playing field[179].

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[177] ADD, supra note 14 at 6.

[178] TRAI document relating to Recommendations on Unified Licensing, www.trai.gov.in/recom.htm [unified]

[179] Sify News, article "No Stay on New ADC Regime: TDSAT" dated 31st January 2005, "The Incumbents have challenged this action before TDSAT which has refused to 'stay' the new ADC regime and directed TRAI to file its reply in two weeks. The next date for the hearing is 24th February 2005" *http://sify.com*, (accessed on 31st January 2005).

(c) License for Unified Access (Basic & Cellular) Services is technology neutral for providing service in defined service areas. On 11th November 2003 DoT issued Guidelines for Unified Access (Basic and Cellular) Service License[180]. On 21st February 2004 DoT notified Guidelines for Merged License Service Area[181] in order to merge basic and cellular telephone services into a single license. It is significant that the possibility of a monopoly getting created in consequence to such consolidation has been addressed. Therefore the Guidelines mandate that at least 3 entities shall operate in the given service area where merged license is sought[182]. The Guidelines uphold the classification of an operator as a *Significant Market Power* (SMP) in the Reference Interconnect Offer (RIO) if such operator has a market share greater or equal to 30% of the relevant market[183]. Paragraph 10 of the Guidelines stipulate that in case the merged entity becomes an SMP post- merger, extant rules and regulations applicable to SMPs would automatically apply to the merged entity. Finally, in terms of its Memorandum issued on 17th March, 2004 DoT has decided to consider the latter of the two dates of commencement of license of the two merging service providers as the effective date for calculating the duration of a license[184] in order to make intra-circle telecom mergers and acquisitions lucrative. Furthermore, merged licenses will be valid for 20 years. It needs no reiteration that financial institutions and bankers to telecom projects derive greater comfort when a license carries a longer period of validity.

It is important to point out that the decision to make the Unified Access License technology neutral has automatically resolved the inevitable conflict between service/ technology specific licenses and new technological developments which allow for cheap, efficient and multi faceted solutions[185]. That being said, although new entrants are

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[180] TRAI, document relating to Guidelines for Unified Access (Basic and Cellular) Service License in terms of letter No.808-26/2003-VAS www.trai.gov.in [UASL]

[181] TRAI, document relating to Guidelines for Merged License Service Area, www.trai.gov.in/regu.htm [Merged License]

[182] *Ibid.* See Para 3

[183] *Ibid.*

[184] *Ibid.* refer Memorandum dated 17th March,2004

[185] Joshi, *Law*, supra note 27 at 10.
The WILL controversy is illustrative of this point. Under the old regime, in 1991 cellular telephone service operators were granted license specifying the use only of GSM technology. Controversy arose when in 1995 DoT permitted basic telephone service providers to use WILL[185] (Wireless in Local Loop) technology in CMDA and GSM platforms for the last mile connect. Consequently, basic telephone service providers

subject to the new license regime, guidelines allow existing licensees an option to continue under the old regime or to migrate to the new one. For this reason a brief survey of the highlights of the now merged two license categories would not be out of place.

Under the new regime License for Cellular Mobile Telephone Service[186] and License for Basic/Fixed Telephone Service[187] have been merged into a single Unified Access License Regime (UAL) on the same terms and conditions described herein above[188]. Special mention must be made, however, that service providers in the UAL category can carry long distance traffic within their service areas, without seeking an additional license, although a licensee is required to have his existing license amended to that effect. Direct interconnectivity is permitted within the service area with the network of any other service, including that of another basic service provider subject to amendment to that effect of the existing license. Similarly interconnectivity with a service provider in another service area in terms of the norms laid down by TRAI and sharing infrastructure with another service provider subject to permission from DoT after requisite amendment of the existing license are permitted. Basic telephone service providers are permitted to offer subscribers voice, non-voice messages, data service & PCO[189] with prior permission of DoT, allowed to connect directly to the VSNL gateways for international long distance calls with requisite amendment to the existing license. Furthermore, they are also allowed allocation of WLL frequency on payment of an additional fee. Thus basic telephone service providers are allowed to freely establish 'last mile' linkages using Wireless in Local Loop.

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could offer cellular services, thereby factually removing the 'monopoly' of cellular service providers over that service. This technological development plunged the basic and cellular telephone service providers into an inevitable "turf war". Pitted on the one hand were the incumbent basic service providers MTNL and BSNL and on the other side are two private service providers Tata Teleservices Limited and Reliance Infocomm Limited. The matter was submitted first to the TRAI, then to TDAST and finally the Supreme Court of India which directed the TDSAT to review the matter afresh with a view to ensuring 'level playing field'.pp.458-465.

[186] Handbook, supra note 81 at 29, document relating to Guidelines for Cellular Mobile Telephone Service License, pp 80-81 & 256-258.

[187] *Ibid.*, document relating to Guidelines for Basic Telephone Service Providers, pp.168-170.

[188] Refer to pages 51 and 52 above.

[189] Public Call Office, i.e. a public telephone facility.

Second Stage

(d) Proposed Unified Licensing Regime for Telecommunications Services

With the full implementation of the first phase of the Unified Access Service License at Circle Level TRAI issued its Recommendations on Unified Licensing Regime on 13th January 2005[190] currently awaiting decision by DoT. Salient features of the Recommendations are as under:

(i) Framework of unified licensing

(i) The new licensing regime proposes to reduce licenses to only four categories :(1) Unified License; (2) Class License ; (3) Licensing through Authorization; (4) Standalone Broadcasting and Cable TV License.

(ii) Such a licensing regime would enable a licensee to provide any or all telecom services by acquiring a single license.

(iii) Migration to Unified Licensing Regime optional for the first five years of implementation. Thereafter it will be mandatory for all current telecom operators to migrate to the Unified Licensing Regime.

(iv) Service specific licensing regime will continue during the initial two years of implementation of Unified Licensing Regime. Thereafter all new service providers shall be licensed under new Unified Licensing Regime.

(iv) Internet Telephony and other IP enabled services will be permitted. Niche operators under Class License will also be allowed to offer internet telephony.

(v) Stand-Alone Licenses for Broadcasting Services including allocation of Spectrum in consultation with WPC and regulation of content will continue to be under the purview of the Ministry of Information and Broadcasting until further notice. Thus a Unified Licensee wishing to offer 'Broadcasting Service' will have to file application to that Ministry.

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[190] TRAI. document relating to Recommendations on Unified Licensing Regime vide Press Release No. 8/2005. www.trai.gov.in/recom.htm [USL]

(vi) Consumers will get all telecom services including voice, data, Cable TV, Direct-to-Home TV, Radio broadcasting through a single wire or wireless medium from a Unified License Operator.

(ii) Terms and conditions for proposed unified licensing regime

(i) Unified Licensing regime introduced for all telecom services to encourage free growth of new applications and services. Thus a Licensee shall be able to provide any or all telecom services by acquiring a single license.

(ii) Revenue sharing rate of up to 15% of Adjusted Gross Revenue (AGR) presently applicable on Licenses Fees to be reduced to a maximum of 6% of AGR under the new regime. Revenue share and/or entry fee for a number of services will be withdrawn.

(iii) There will be a nominal registration charge of approximately US$ 69,000 for Unified License after the initial 5 years.

(iv) No Entry Fee payable by niche operators providing all services in rural/remote areas that have less than 1% tele density. Furthermore, such operators will also be allowed to provide fixed telecom services including multimedia, internet telephony and other IP enabled services in such areas. Operators shall, however, be permitted to use only wire-line/fixed wireless networks. The definition of 'niche operators' will be reviewed periodically.

(v) Until Government notifies Guidelines for Spectrum Management, Pricing and Allocation the existing regime in the matter will remain applicable.

(vi) Resale of License will not be permitted.

(iii) Impact of unified licensing regime on existing regime

(1) Unified License

The Unified License envisages unification of basic[191], cellular[192], unified access service, national long distance service, international long distance and global mobile personal communications service licenses.

Registration charge or Entry Fee will be approximately US$ 2,445,000. Entry fee for basic service operators who entered in or after 2001 will depend on the service area(s) or circle(s) where the licensee wishes to offer access services. The suggested entry fee is the discounted value of entry fees charged to national long distance and international long distance service licenses. It has been recommended that total registration charges be gradually reduced from the recommended level to about US$ 69,000 after the initial 5 years.

License fee of 6% of adjusted gross revenue (AGR) i.e. contribution to USF (5%) + administrative cost (1%) has been recommended. With growth in revenue accruals a review of the level of USO levy and administrative fee is mandated.

Performance Bank Guarantee (PBG) for unified license will remain the same as currently mandated for Unified Access Service License (UASL). NLD, ILD operators and UASLs who do not migrate to the unified licensing regime will continue furnishing PBG as per existing norms.

Service Area will be at the option of the licensee at national level or circle level will be the same existing under the UAS regime.

Roll out Obligation : Access services rollout obligations as under the UASL will continue. A national long distance service operator is required to make arrangements to pick up/ handover long distance traffic form his subscribers in all service areas. Inter-service area traffic may be handed over/picked up at the choice of the unified licensee or NLD operator, either at a central location or LDCA. Traffic may also to be handed

[191] Handbook, supra note 81 at 29

[192] *ibid*

over/picked up at SDCA level with the mutual consent of interconnecting service providers. Existing roll-out obligations for ILD service providers remains unchanged. The existing regime will continue to operate until the new regime comes into force.

(i)License for National Long Distance Service[193]:

In January 2000 DoT opened the national long distance service to private operators until then held by the incumbents MTNL and BSNL in January 2000. Apart from the mandatory conditions attached to licenses[194] other applicable license conditions are that (i) an applicant can apply for only one license for inter-circle operations within the jurisdiction of India (ii) Four Financial Bank Guarantees worth US$1million each are liable to be forfeited if roll out plan not fulfilled (iii) although interconnection is guaranteed, an applicant must make its own arrangements for access to leased lines.

(ii) License for International Long Distance Service[195]:

Pursuant to NTP 99, the Central Government opened up the International Long Distance Service to the private operators with effect from 1st April 2002 without restriction on the number of operators. Eligibility criteria includes that the applicant company itself must have a net worth of US$ 2.5 million. Net worth is understood to mean the sum total of paid up equity capital and free reserves calculated in Indian currency and net worth of promoters is not to be counted for determining the net worth of the company for this purpose. Automatic renewal of the license for a further period of five years is qualified by satisfactory performance in accordance with terms and conditions of the license, particularly in regard to parameters defining the Quality of Service.

Pursuant to the issuance of Guidelines for International Long Distance Service in 2002 the Central Government divested 74% equity in Incumbent VSNL in the hands of a strategic partner the Tata Teleservices Limited.

(iii) License for Provision of Global Mobile Personal Communication[196]: The Government of India took the decision on August 26, 1998 to introduce GMPCS Service

[193] *Ibid.*
[194] Refer to section on license conditions for all categories licenses at page 50 above.
[195] *Ibid.*

in the country. Accordingly Indian companies with up to 49% foreign equity participation[197] were to be issued licenses on a non-exclusive basis subject to security clearance from the Ministry of Home Affairs of individual proposals. A provisional license was issued on 28th October 1998 to M/s. Iridium India Telecom Limited. However, the service ceased to operate from March 18, 2000 due to non-availability of satellite infrastructure from Iridium LLC, US. Pursuant to NTP 99 on 2nd November 2001 the Central Government announced a policy for enabling GMPCS in the country. Letters of Intent are believed to have been issued to two other companies and license agreements are expected to be signed.

(2) Class License

Services which will be covered under this category are VSAT Service and Niche Operators. Registration/Entry fee, Performance Bank Guarantees or Roll-Out Obligation will not be imposed.

License fee: 6% of Adjusted Gross revenue (AGR) i.e. contribution to USF (5%) + administrative cost (1%). As the sector revenues grow, the Government may consider reviewing the level of USO levy and administrative fee.

Service Area will cover National level or Circle level at the option of the operator while for niche operators service area will be at SDCA level.

(i) License for provision of VSAT[198]: The New Telecom Policy 1999 envisages grant of license on non-exclusive basis to Very Small Aperture Terminal (VSAT) service providers for a period of 20 years extendable for 10 years only once. It has been decided to invite applications for award of license on non-exclusive basis using INSAT satellite system transponders in the Ku-band for commercial VSAT service and captive VSAT service within the territorial jurisdiction of India[199]. In its Recommendations on Growth

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[196] *Ibid.*
[197] FDI, refer to section 5 on FDI at page 49 above.
[198] *Ibid*

[199] India began its space program with the establishment of The Space Commission and Department of Space in 1972. Since then India has made steady progress in the development of launch vehicles and satellites. The first Indian satellite was Aryabhata was launched by a Soviet rocket on 19th April 1975.

of Broadband & Internet[200] TRAI had suggested an open sky policy for VSAT services in order to accelerate achieving USO targets. However, the Central Government did not accept the recommendation as such VSAT service continues to be permitted only for closed user groups.[201]

(ii) Niche Operators: are described as those operators providing all services in rural/remote areas that have less than 1% tele density. Such operators will be allowed to provide fixed telecom services including multimedia Internet telephony and other IP enabled services in such areas. Operators shall, however, be permitted to use only wire line/fixed wireless networks. The definition of 'niche operators' will be reviewed periodically.

(3) Licensing through Authorization

This category will unify the IP-I, IP-II, Radio Paging, PMRTS Services and Internet services (along with existing restricted internet telephony) linceses.

Registration/Entry fee, License fee, Performance Bank Guarantees or Roll-Out Obligation will not be imposed.

Service Area will be at National level or Circle level at the option of the Licensee.

(i) Infrastructure Service Provider Category –I (IP-I)[202]

Infrastructure was opened to private participation in 13th August, 2000. Except for an application processing fee of about US $110, no entry fee or FBG[203] required to be

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With the successful launch of the SLV-3 on 18th July 1980 when a 35kg satellite called Rohini was placed in LEO, India became only the seventh nation in the world to achieve space orbit capability.

Space technology in India is primarily geared towards improving telecommunications, meteorological forecasting, providing advanced natural disaster warning, distance education and remote sensing for agriculture, soil, mineral and water resources management. The Indian National Satellite System (INSAT) is owned by the Government of India, and is registered, regulated and operated by the Department of Space via the Indian Space Research Organization (ISRO). The successful launch of India's first educational communication satellite "EDUSAT" by GSLV-F01 on September 20, 2004 heralds the operational reliability of the heavy lifter to Geostationary orbits.www.isro.gov.in

[200] RGIB, supra note 21 at 8
[201] BP 2004, supra note 44 at 22.
[202] Handbook, supra note 81 at 29

furnished. Companies registered as IP-I can provide such assets as Dark Fiber, Right of Way, Duct Space & Tower. Foreign Direct Investment is allowed up to 100% and there is no restriction as to the number of entrants.

(ii) License for Infrastructure Provider Category – II (IP-II)[204]: An IP-II Licensee can lease / rent out /sell end to end bandwidth i.e. digital transmission capacity capable to carry a message. Foreign equity in an applicant company cannot exceed 74%. An application processing fee of US$ 250 is charged. Although no entry fee is charged, a Performance Bank Guarantee of US$ 50 million is required to be submitted before signing the license agreement. There is no restriction on number of player. The license is valid for 20 Years from the date of license agreement.

(iii) License for Radio Paging Service License: The Radio Paging Service was commissioned in 27 cities across India in 1995. A fixed license fee is charged for first three years which is reviewed from time to time. In 1996 4 licenses were issued carrying a 10 years validity period to provide service to 19 telecom circles in addition to the 27 cities already covered.

On 26th April, 2004 vide the Central Government announced a substantial relief package for radio paging licensees[205] in terms of which existing licensees are allowed to exercise their option to either migrate to a revenue sharing model in addition payment of a one time non- refundable entry fee or remain under the earlier fixed license fee regime. The main feature of the new scheme is that the fixed license fee regime for Circle Radio Paging licensees commences from the 2nd payment year. Thus a licensee will become liable to pay a fee charge of 5% of Adjusted Gross Revenue (AGR)[206] inclusive of levy towards Universal Service Obligation from commencement of the 2nd year of service. Licenses will now carry a 20 years period of validity. License fees will be securitized by Financial Bank Guarantee (FBG) of an amount equal to the estimated sum payable

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[203] Financial Bank Guarantee

[204] Handbook, supra note 81 at 29.

[205] *Ibid.* See TRAI document relating to Package of Relief to Radio Paging Service Licensees Order no..843-26/99-BS-III dated 26th April 2004, www.trai.gov.in/regu.htm.

[206] Joshi, *"Law"*, supra note 27 at 10. Adjusted Gross Revenue (AGR) for the purposes of the telecom sector, means the Gross Revenue as reduced by Service Tax for the provision of service and sales tax actually paid to the Government.

towards two-quarters of license fee and other dues not otherwise securitized. Licensees are permitted to share infrastructure with any other type of service and interconnectivity is permitted under the current regulations. Other terms and conditions remain the same.

(iv) License for Provision of Public Mobile Radio Trunk Service (PMRTS)

Pursuant to NTP 99 DoT announced Detailed Guidelines for Migration of Existing Operators & Issue of Fresh License for PMRTS[207] in terms of OM. 311-80/2000- VAS dated 1st November, 2001. Existing licensees were allowed to migrate to digital technology at their option within one month of notification, after prior intimation to DoT and the signing of a fresh license agreement to that effect.

Existing operators not willing to migrate to the new licensing regime could have their licenses extended for continuing with analog systems for an additional period of ten years making up the total license period of up to 15 years. However, no spectrum was reserved for them. Licensees willing to migrate to digital technology, however, were allocated up to 1 MHz additional radio frequency and their license period was extended making up a total of 20 years. Additionally, a minimum of 10 channels (25 KHz. each) was reserved to facilitate the expansion of analog systems during the period of migration from analog to digital technology.

Because implementation of the policy is dependant solely on availability of adequate radio frequency spectrum, new licenses are granted only after assessment of migration of existing operators to digital technology and availability of radio frequency for a specific service. New licenses, carrying a license period of 20 years are granted on non-exclusive 'first-cum-first serve' basis and are allotted 1 MHz frequency spectrum at the time of grant of license. New PMRTS licensees are bound to use only digital technology. Apart from areas of operation already defined, new service areas to cover national highways, state highways and other district roads contiguous with the boundary of a particular state has also been defined.

[207] Handbook, supra note 81 at 29.

New licenses no longer carry an entry fee. All licensees, except public services (e.g. police, fire and government security etc) are liable to pay a licensee fee pegged at 5% of AGR. There are, however, separate charges are payable towards royalty and for use of radio spectrum by PMRTS licensees for commercial and captive system as long as DoT continues its present arrangement for spectrum fee. This is, however, subject to amendments by WPC from time to time. Finally, a licensee is required to furnish FBG of about US$ 21,000 or of an amount equivalent to six months license fee paid in the previous year, carrying a validity of at least one year that must be maintained during the entire period of the license agreement.

(v) License for INSAT MSS Reporting Service[208]: INSAT Mobile Satellite System Reporting Service (INSAT MSS Reporting Service) is a one way satellite based messaging service available through INSAT. The basic nature of this service is to provide a reporting channel via satellite to a group of people operating from remote locations without any telecommunications facilities, need to send short textual message or short data occasionally to a central station. This service provides one way message reporting (transmit only) facility from anywhere in India. The applicant must be an Indian company registered under Indian Companies Act 1956.

(vi) License for Provision of Internet Service[209]: The ISP Policy was announced in November 1998. The ISP licenses are issued on a non-exclusive basis for a period of 15 years renewable at the discretion of the Licensor. An applicant company may be granted any number of licenses and there is no limit to the number of licenses granted in a particular area. Nor is an applicant required to have any previous experience in this field. Private ISPs are not permitted to setup their own international gateways using satellite and submarine cable landing stations. An Indian company with a maximum foreign equity of 74% is eligible. 100% FDI is also allowed subject to the condition that such an ISP cannot set up an International Gateway[210]. ISP can provide internet telephony service after obtaining clearance for the same. DoT had waived the licensee fees up to 31st October, 2003 and permitted ISPs to set their own tariffs. Finally, an exit policy for ISPs has also been finalized.

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[208] *Ibid.*
[209] *Ibid.*
[210] *Ibid.*

(vii) License for Provision of Internet Telephony Service[211]: Pursuant to NTP 99 the Central Government opened up internet telephony by granting permission only to internet service providers (ISPs) to process and carry voice signals subject to guidelines laid down for the on 1st April 2000. Internet telephony is described to mean an application service which can be availed on Personal Computers (PC) capable of processing voice signals and on other IP based Customer Premises Equipment (CPE). Presently, the DoT, i.e. licensor, does not levy tariff for internet telephony offered by ISPs over public internet, although it retains the right to review the situation in the future. ISPs are required to provide security monitoring at their own cost as prescribed by Government. ISPs are required to sign an amendment to their ISP license agreements to bring internet telephony service into effect.

(viii) Provision of E-Commerce, Tele-Banking, Tele-Medicine, Tele-Education, Call-Centers[212]

No license fee is imposed by the Central Government for any of these services, although registration of specific services offered is required. Such service providers are not allowed to provide switched telephony nor permitted to interfere in the jurisdiction of other service providers. Finally service providers are allowed the use of infrastructure of other service providers. In context to e-commerce, Parliament enacted the Information Technology Act, 1999 (IT Act 99) which is a comprehensive legislation dealing with all aspects of e-commerce. Call Centers, both domestic and international, are registered under the category nomenclature 'other service providers'.

(4) Standalone Broadcasting and Cable License regime will continue as at present

8. BANDWIDTH AGREEMENT[213]

Bandwidth Agreements enable the telecom service operator to reserve capacity on fiber cables in anticipation of future requirements for expanding business and for specific services contemplated. It is possible to procure 'dark' or 'unlit' optic fiber cables which are sometimes called 'dark fiber sale agreements'. While the structure of such agreements

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[211] *Ibid.*
[212] *Ibid.*
[213] Joshi, *Law*, supra note 27 at 10.

sales is flexible to enable a party procure a specific service or a bouquet of services as may be relevant, the agreement must have clauses to cover the scope of service, description of network, enumeration of rights and obligations of parties, description of interconnection and interface with customer's equipment, price, billing and payment modules and limitation of liability.

9. TELECOMMUNICATION PROJECT FINANCE

The feature that distinguishes a telecommunications project from other infrastructure projects is that it does not have a demarcated construction period followed by an operations and maintenance phase[214]. Instead, in telecom project the construction phase is almost ongoing, since the network must necessarily grow continuously to achieve greater subscriber penetration. Furthermore, because the financial viability of the telecommunications industry depends entirely on subscriber loyalty and market dominance, this sector must also be technologically responsive and provide quality service. When we juxtapose the inherent character of a telecom project with the twin disabilities that Greenfield projects face at inception[215] it is easy to understand why the terms of interconnection with the incumbent service provider's network are cardinal to the feasibility of a telecom project.

The second distinguishing feature of a telecom project is the nature of collateral security it offers. Unlike other infrastructure projects, telecom does not have a single substantial and specific facility created at a single site, instead it is its ability to undertake commercial operations spanning the entire network that is of value. Such a situation postulates the availability, grant and continued enjoyment of the rights of way and radio frequency spectrum for the network.

Lastly, commercial success of a telecom project depends upon its ability to acquire adequate subscriber penetration cardinal to ensure regular scheduled debt servicing. This crucial requirement makes the project dependent on a highly skilled and innovative

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[214] *Ibid*

[215] *Ibid.* A Greenfield telecom project is both entirely dependent on the incumbent service provider's network and suffers a comparative disadvantage in terms of the subscriber base, in the initial years of operation. Not unexpected, then, that the incumbent will try all manners and means to retain its dominance by stifling competition.

marketing strategy. These are the parameters in respect of which project managers must satisfy a financial institution ('FI') before they can obtain project finance.

A Financial Institution as the prospective lender will scrutinize carefully the three variables of (i) Viability of Network Plan which indicates the network roll out including cost and time for obtaining of various licenses/ permissions/ clearances proposed by the applicant telecom company; (ii) Selection of Technology proposed to be used for the network roll. Generally, if the technology proposed to be employed is outdated or at risk of so being, FI may have doubts about the subscriber penetration projections. On the other hand, if technology is new but not yet tested it may lead to a similar presumption. In such a case, the FI may impose a condition that the project first employ tested reliable technology for the roll out before migration to the new. Additionally, the cost of acquiring new technology will also impact the overall project cost. In other words, varying circumstances will occasion different terms and conditions being imposed by the FI; (iii) the Project Plan which details the proposed phase-wise implementation of the entire project together with the Project Costs related to each phase[216]; (iv) the Subscriber Penetration Projections which are directly dependent on the network roll out and due implementation; (v) Revenue Projections based on the four variables on which the FI will determine the viability of the proposed project. It is by evaluating these parameters that a FI will determine the extent of exposure it should take, conditions it should impose for drawdown of the loan and the debt repayment schedule.

However, before the lender sanctions loan it must look at the nature of collateral security which the borrower brings to the table. As we have already said the most valuable assets for a telecom company are: (i) telecom service license granted by DoT ; (ii) license allotting site for establishing wireless equipment granted by the WPC Wing; (iii) clearance to use specific frequency spectrum at permitted site granted by SACFA; and (iv) rights of way granted by relevant authorities[217].

Unhappily, the license regime as it presently exist in India does not offer facility of inherent solutions pertaining to project financing making it extremely difficult for Indian

[216] The projected costs of the various phases of a telecom project are critical to determining the terms and conditions on which finance will be made available by a FI.
[217] Joshi, *"Law"*, supra note 27 at 10.

telecom companies to access adequate financial resources. The service license granted by the DoT and licenses granted by SACFA and WPC Wing cannot be assigned or transferred to a third party. Consequently a licensee is prohibited from transferring rights that accrue to him under these licenses as collateral security for project finance in favor of the lender. Nor do the terms of license provide for 'step-in rights' in favor of a lender in the event of default of its terms and conditions by the licensee. Moreover the terms of license do not provide for prior consultation with the lender before the licensor, i.e. DoT, decides to terminate the license on grounds of default of any other condition stipulated in the license[218]. The failure of the Central Government to finalize the 'Draft Tripartite Agreement'[219] to address this critical limitation is a major failure of the Indian telecom policy[220].

In conclusion, it is important that this paper examines the implications of exercise by the Central Government of its right to terminate a license[221]. The exercise of this right by the DoT as the Licensor[222] is best illustrated by reviewing provisions of the 'License Agreement for Provision of Internet Service'[223] enumerated in Condition 10 dealing with '*Termination of License*' and Condition 10.5 dealing with *'Actions Pursuant to Termination of License as per Clause 10.1,10.2,10.3 &10.4* . The cumulative effect of

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[218] Refer to section 3 on Telecom Regulatory Authority: see pps.34-36 above.

[219] Joshi *Law*, supra note 27 at 10. The 'Draft Tripartite Agreement' essentially provides an undertaking by the Licensor to "transfer or assign" the license by means of an endorsement to an individual selected by the Lender (s). However, in the absence of statutory recognition in the Indian Telegraph Act 1885, of such a vesting of authority or mode of "transfer or assignment" of license, the validity of such a "transfer or assignment of license by means of endorsement" would be open to challenge.

[220] *ibid.* The issue was debated, ad nauseum, by the Government. The proposal to create a structure for a 'Tripartite Agreement' between the Licensor, the Licensee and the Lender's Agent to the License (which had to be either a FI or Non-Banking Finance Company), with a view to providing a 'step-in right' in favor of the Lender to the License, by making it mandatory for the Licensor to hold consultations with Lender, prior to the exercise of its right to terminate license, in order to enable the Lender to (i) settle of default of Licensee or (ii) substitute the Licensee with another entity which met the requirements of the Licensor, and thereby to that extent curtail the power of the Licensor to terminate a License, has not materialized.
See also *Tata Teleservices Ltd.V. Union of India* 78 (1999) Delhi Law Times 572. In this case, the failure of the Central Government to finalize the 'Tripartite Agreement' was one of the grounds adduced by Tata Teleservices Ltd., against the encashment by the Licensor of Bank Guarantees furnished by the Licensee under the terms of Basic Telephone Service License for the Telecom Circle of Andhra Pradesh. The High Court of Delhi held rejected the argument of the Petitioner holding that a dispute in relation to such aspects was subject matter for arbitration under the License Agreement and the encashment of Bank Guarantees could not be stopped because of various breaches & defaults by the Licensee.

[221] *Ibid* pp.455 following

[222] TRAI Act 97, supra note 55 at 23.

[223] Handbook, supra note 138 at 45, pp.144 – 154.

termination contemplated by the licensor is applicable in all circumstances attendant to the implementation of a license can be summarized as follows:

(i) The DoT is empowered to procure such further resources, as it deems fit/appropriate, to make up for resources not yet installed/ not yet delivered/ not brought into commission, by impugned licensee, so as to enable provision of the service to the consumer. Furthermore, the licensee shall be liable for the "extra/excess cost" of such "corrective action" required to be undertaken by the DoT.

Question arises of whether a licensee would be able to locate money to discharge the additional liability in a situation in which his license is already terminated by DoT on grounds of default? Does it imply that DoT would automatically encash the Performance Bank Guarantee furnished by the licensee in compliance of the condition precedent to grant of license?

b) The DoT is empowered to takes steps to maintain and ensure continuity of service including permission to 'take-over' the network or re-issue the impugned license to another service provider. There is no direction to DoT of how to deal with encumbrances and charges that may have been created by an impugned licensee in favor of the lender. Nor is there an indication of whether recourse action

conditions enumerated in the Project Finance & Collateral Security Documents. Inevitably it is the lender who is adversely affected since it puts his outstanding debts at risk of being dishonored.

d) During the period of 'Notice of Termination of License' a licensee is under obligation to DoT to maintain the required quality of service to consumers. It is difficult to understand how a licensee would achieve this particularly when a 'Notice of Termination of License' would automatically trigger the default and recovery mechanism defined in the Project Finance Documents that would automatically foreclose the revenue stream available to the licensee designed to curtail the debt exposure of the lender. It is easy to predict, therefore, that the pressure on DoT not to terminate a license would be immense because such an action is bound to have an immediate, direct and negative impact on the consumers. More importantly the impact on the lender is bound to be devastating for two reasons: (i) the lender will loose the project; and (ii) in such an event project recourse financing would not be possible[225].

10. BROADCASTING

A paper on regulation satellite telecommunications would not complete without discussing the status of the Broadcasting Sector in India. The Parliament passed the Prasar Bharti (Broadcasting Corporation of India) Act 1990[226]. The Draft Broadcasting Bill, 1997 [227] which was tabled in Parliament was never enacted. Although both statutes carry different definitions of the term *'Broadcasting'*, neither exclude *'television'* & *'radio'* services from their ambit because both services fall within the meaning of

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[225] *Ibid.*

[226] Prasar Bharti (Broadcasting Corporation of India) Act, 1990, www.mib.nic.in/informationb/media/actsrules , Section 2 (c) defines 'broadcasting' to mean "the dissemination of any form of communication like signs, signals, writing, pictures, images & sounds of all kinds of transmission of electro-magnetic waves through space or through cables intended to be received by the general public either directly or indirectly through the medium of relay stations, and all its grammatical variations and cognate expressions shall be construed accordingly" [PB Act 1990].

[227] Broadcasting Bill 1997, www.mib.nic.in/informationb/media/actsrules Section 2 (e) defines 'Broadcasting Services' to mean "service whereby signs or signals transmitted, whether or not encrypted, comprising (i) any program capable of being received or received and displayed, as visual images, whether moving or still; or (ii) any sound program for reception; or (iii) any program, being a combination of both visual image whether moving or still) and sound for reception, or reception and display, by persons having equipment appropriate for receiving or receiving and displaying, as the case may be, that service, irrespective of the means of delivery of that service" [BB 1997].

'wireless telegraphy apparatus' defined in the Wireless Telegraphy Act, 1933[228]. Furthermore recognizing the potential of convergence technologies, NTP 99 has proposed a single license to enable two way communication service for cable, basic telephony and internet service operators[229]. It may be recalled that when it comes into force the Unified License Regime will bring broadcasting and internet telephony within its regime.

The Central Government[230] operates the main broadcasting services through the Ministry of Information & Broadcasting under two separate entities. These are the *All India Radio*[231] ('AIR') for radio services and *Doordarshan* ('DD') for television services. In 1990 Parliament made an attempt to free broadcasting from excessive government control when it legislated to create an autonomous Broadcasting Corporation called *Prasar Bharati*[232] to perform the role of a Public Service Broadcaster and to ensure a balanced and fair growth in the media sector[233]. However, it was only in 1997, a full seven years after enactment that the Central Government notified the statute to enable implementation. The reason is not far to see. Governments in power are loath to loosing control over such a powerful tool.

Meanwhile the Draft Broadcasting Bill, 1997 was tabled in Parliament was referred to the Parliamentary Joint Consultative Committee on Information & Broadcasting prior to legislative action. The Bill sought to establish an independent Broadcasting Authority of India to act as a regulator for broadcasting services in the country. The proposed Authority was to be empowered to function as both Regulator and Licensor. This was an important provision because it did away the cardinal infirmity that has prevented the Telecom Regulatory Authority from functioning effectively. Further, the Bill proposed the grant of a single license for providing services and for allocation of frequency. This was a market friendly provision. It may be recalled that delay and difficulty in obtaining various licenses and statutory clearances from a multiplicity of agencies is one of the barriers to rapid growth in the telecom sector. However, an exception was made in the

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[228] Handbook, supra note 138 at 45. Under the present scheme 'Television' & 'Radio' are exempt from licensing requirements by virtue of the Radio, Television & Video Cassette Recorder Sets (Exemption from Licensing Requirements) Rules, 1985

[229] NTP 99, supra note 13 at 6. See Para 3.1.3

[230] Ministry of Information & Broadcasting, Shastri Bhawan, Rajendra Prasad Marg, New Delhi 110 001

[231] Joshi, *Law*, supra note 26 at 10, pp. Called *'Akashvani'* since of 1957

[232] PB Act 1990, supra note 196 at 67.

[233] *Ibid.* refer Section 12

case of certain broadcasting service categories like Satellite Service Providers, DTH Television and Local Delivery Services which were to be allotted specific frequencies by the 'Wireless Advisor to the Central Government[234]' in consultation with the Broadcasting Authority.

The draft Bill specifically identified six services that were to be brought within the ambit of mandatory license requirement[235]. (i)Terrestrial Radio Broadcasting Service[236] to provide audio programs further categorized into national, regional, local & restricted services[237]; (ii) Terrestrial Television Broadcasting Service[238] to provide video programs, with or without audio. It was proposed to grant license to the highest bidder who fulfilled all requirements in a competitive bidding process[239] categorized into national, regional, local & restricted services; (iii) Satellite Radio Broadcasting Service[240] to provide audio service; (iv) Satellite Television Broadcasting Service[241] to provide video programs with or without audio; (v) Direct-to Home Broadcasting Service[242] was defined as service which use Ku Band satellite system for distribution of programs directly into a subscriber's premises without the help of local delivery system. The Bill envisaged the grant of license for DTH to the highest bidder who fulfilled terms & conditions through the process of competitive bidding; and (vi) Local Delivery Service which was a service that distributed programs by means of a ground transmission system using cable, MMDS[243] or a combination of both. Cable television networks were classified as 'Local Delivery Service' that did not use MMDS. The draft Bill also specified that cable television service operators had to apply for license within 6 months of the Bill coming into force.

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[234] Joshi, *Law*, supra note 27 at 10. The term 'Wireless Advisor to the Government' is rather an ambiguous term because nothing is specifies about which office/department will actually perform this function. It may be recalled that for telecom, license for frequencies is issued by the WPC Wing of the DoT, pp 446-479. .
[235] *ibid.*
[236] BB 1997, supra note 197 at 67. See section 2 (zm)
[237] *ibid.*, see section 9 (2).
[238] *ibid.*, see section 2 (zn).
[239] *ibid.*, Section 16 (1).
[240] *ibid,* see section 2 (ze), *ibid:* 'satellite broadcasting' is defined to mean service provided by using a satellite and received with or without the help of a local delivery system but does not include direct-to-home television.
[241] *ibid.*
[242] *ibid*, See section 2 (k)
[243] Joshi, *"Law"*, supra note 27 at 10. MMDS has been defined to mean a ground wireless transmission system used for multi-point, multi-channel distribution of programs on frequencies notified in the Official Gazette by the Wireless Advisor to the Government of India.

However, the draft Bill did not provide for an independent disputes resolution mechanism and mandated the Broadcasting Regulator to function as such. The experience of the TRAI ought to have served as the clearest indicator that in the absence of an independent agency for disputes resolution like the TDSAT , the broadcasting sector would inevitably be embroiled in litigation that would be detrimental its growth and expansion.

In any case, in the absence of a specific statute to govern the sector, the Central Government has brought broadcasting within the ambit of TRAI [244] entrusting the telecom regulator with the additional function of specifying standard norms, periodicity of revision of rates of pay channels, interim measures and making recommendations in respect of all aspects of broadcasting[245].

In light of this background, the opening of the broadcasting sector in India can best be described as unintentional apparently undertaken by Government almost out of compulsion. In May 1991 the Hong Kong based Star TV[246] began to beam English language channels via ASIASAT-1 Satellite which has a South Asia footprint. Soon thereafter in October 1991 Zee Television[247] began offering Hindi language channels. Inevitably this led to the mushrooming growth of independent private cable television networks which enabled access to consumers via their dish antennas and cable system[248]. By 1994 Government recognized the clear need to regulate the ever growing cable TV networks[249]. In 1995 Parliament passed the Cable Television Network (Regulation) Act, 1995. As we have said elsewhere[250] the said statute is a rare example of minimal regulation by government aimed only at providing a legal framework to enable healthy growth in this business activity.

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[244] Ministry of Information and Broadcasting, document relating to TRAI functioning as the broadcasting regulator, Ministry of Information & Broadcasting Notification No. S.O. 45 (E) dated 9th January, 2004, www.mib.nic.in/information

[245] TRAI, document relating to holding open house discussion with stakeholders in respect to its Consultation Paper on Satellite Radio Broadcasting on 11-2-2005. Also see Press release 13/2005 TRAI has sought views from all stakeholders on its Consultation Paper on Digitalization of cable TV, *www.trai.gov.in*

[246] Company owned by Rupert Murdoch

[247] Zee Television Limited is an Indian company promoted and owned by Shri. Subhas Chandra.

[248] Joshi, *Law*, supra note 27 at 10

[249] Ministry of Information & Broadcasting, Cable Television Networks (Regulation) Ordinance and framed Rules indicating registering authority & other criteria, vide Notification No .SO 718 (E), Ministry of Information & Broadcasting, Government of India dated 29th September, 1994. www.mib.nic.in

[250] Joshi, *Law*, supra note 27 at 10.

The draft Bill enumerated provisions for grant of **License for Satellite Services**[251]. It was proposed that such license should be granted on the basis on application in writing to the Broadcasting Authority which had to be satisfied that an applicant had (i) 'acquired' a transponder either on an Indian satellite system or a foreign satellite system; (ii) obtained technical clearance in respect to the said transponder for the purpose of providing a specific service from the Wireless Advisor to the Government; (iii) fulfilled other specified criteria; and (iv) paid such fee as may be determined by the Authority. The Bill sought to govern satellite broadcasting services including DTH by permitting 'up-linking'[252] of programs only from India except live coverage of events taking place outside India[253]. The Bill enumerated a mandatory Program Code[254].

The draft Bill provided for the constitution of a Committee of Experts to advise the Broadcasting Authority on (i) unjust & unfair treatment of any person in a program; (ii) unwarranted infringement of privacy;(iii) practices to be followed in respect to portrayal of violence in programs; (iv) practices to be followed in respect to portrayal of sexual conduct in programs; and (v) standards of taste and decency to be followed in programs, in general. Other aspects addressed by the draft Bill pertained to norms governing restrictions on cross media ownership between newspapers & broadcasting services[255], limitation to the number of licenses to be issued for categories of service[256], disqualification of licensees[257] and the functioning of the Authority itself.

Meanwhile, in the interim period when the draft Bill was still under discussion in Parliament, Government issued **Guidelines for up-linking from India**[258] on 25th July 2000 permitting Indian private companies to set up up-linking hub/teleports for licensing/hiring out to other broadcasters. The guidelines permitted up-linking of any

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[251] Terms attached for proposed License for satellite services reflect the stated goal of SATCOM, supra note 24 at 8.
It is suggested, however, that the Central Government should formulate a comprehensive yet flexible Satellite Communications Policy to lay the framework within which future growth of satellite enabled services can take place.
[252] BB 1997, supra note 227 at 70. see section 2 (zq) defines 'uplinking' to mean up-linking of a program transmission from an earth station to a satellite.
[253] *ibid.*, Section 15 (2).
[254] *ibid.*, Section 7 (iv) read with section 10 (1)(i),(ii),(iii),(iv),(v),(vi) & (vii).
[255] *ibid.*, Section 12 (4).
[256] *ibid.*, Section 12 (2).
[257] *ibid.*, Section 12 (1).
[258] Ministry of Information & Broadcasting, document relating to Guidelines for Up-linking from India, http://mib.nic.in/informationb/CODES. See also Joshi *Law*, supra note 27 at 10.

television channel from India, allowing Indian news agencies to have their own up-linking facilities for purposes of newsgathering and its onward distribution. In July 2001 Government followed this up by issuing Guidelines for DHT[259]. However the DTH Guidelines have only recently been implemented because of the opposition of cable operators to the implementation of the Conditional Access System (CAS) resulting in suspension of its implementation by the central Government.

We may conclude by saying that it is clear that the Government of India recognizes that telecommunications and broadcasting are critical to economic development in the country and would like to see rapid growth in these sectors. However, policy thinking is not consistent and clear. Legislation has not been allowed to keep pace and the government has engaged in patchwork policy directives by way of amending acts and issuing guidelines instead of comprehensive new statutes to guide these sectors in the future. While the government has gone through the formality of constituting an independent regulator and put in place other norms required to fulfill India's international obligations under the GATS regime, neither the regulator nor disputes redress mechanism have been allowed to function independently. In a situation which has been allowed to languish, vested interests have become rooted, constantly pushing for status-quo or lop sided policies that create distortions. The government on its part is loath to deregulate comprehensively not just for fear of loosing control but because the over sized, under performing monopoly incumbents, which currently earn revenue from captive subscribers, would not be able withstand competition that deregulation will necessarily usher. That being said the situation as it stands today is that the draft Communication Convergence Bill and the draft Broadcasting Bill which were tabled in Parliament have lapsed. Therefore, it is imperative that legislators seize the opportunity at hand to make an informed assessment of the latest technological developments radically affecting both sectors. It is urgent that the government formulate a clear and specific satellite communications policy to spell out its vision of the direction India must take to benefit from convergence technologies in the telecommunications and broadcasting sectors to the common citizen. A satellite communications policy needs to be brought to life that frees India the 'telegraph' mindset by enacting specific statutes to facilitate the growth and the regulation of satellite communications in India.

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[259] *ibid*

Chapter IV

The Canadian and American Experience

There are reasons for the decision to explore the recent experiences of Regulators in Canada and the Untied States and attempt to draw lessons for India for the purpose of this thesis. The reason for choosing Canada is because the World Telecommunications Report 2002[260] puts Canada down on a list with other countries that did not fare well during the last decade on account of civil war and those that retained state-controlled incumbents like India. This inclusion was especially surprising when we consider that Canada has achieved greater tele-density (almost 100%) than several European countries where tele-density achieved is between 55%-70%. One reason may well be that the Canadian Radio- television & Telecommunications Commission (CRTC) has not kept pace with rapidly changing industry environment. A study of how CRTC has responded to the challenges it faces will serve as a valuable point of reference when TRAI is confronted with similar challenges.

The choice of the United States was predetermined because it is commonly acknowledged that international organizations, ITU and WTO in the present case, tend to formulate guidelines for establishing independent regulators based closely on the corresponding American example. Thus the US Federal Communications Commission becomes an important point of reference for any study on the evolution of independent regulatory regimes that obtain in the rest of the world. That being said, it is to be noted that even the FCC is faced with a dilemma of the best way to respond to the rapid proliferation and convergence of information and telecommunications technologies, on the one hand, and the need to create a balance between the maximum benefit to the industry and to the consumers, on the other hand.

Indeed, dealing with issues of how to control internet and Voice over Internet Protocol; whether or not there is need to redefine foreign ownership norms in telecommunications and broadcasting industry qua national security concerns given the natural 'reach' of

[260] WTDR 2002, supra note 2 at 2. See Executive Summary at pg.14. "Despite doing most things right from policy point of view, Canadians, like their southern neighbor, never really seemed to embrace mobile communications as willingly as Europeans..."

communication satellites; how to control space industry; and how to reconcile market developments within the ambit of competition law are the emerging challenges. In a world that will soon be driven by internet telephony, broadband and wireless, regulators all round the world will face these challenges sooner than later.

Modern economics views competition as a dynamic process of rival entrepreneurs who must make guesses about the future and engage in risky investments. The number of competitors in one sector is less important than the presence, or not, of market rules and the possibility of free entry. Even if there is concentration of activity in one sector and even if entry turns out to be costly in terms of initial investment, competition can still be intense. The competition comes not only from the potential entry of new competitors in the same sector but also from the supply of similar products and services, satisfying the same consumer needs from firms in other sectors of the economy. Thus regulators around the world are facing mounting pressure from industry to deregulate fully, while consumers are demanding greater clarity and transparency about the regulatory and legal framework in which telecommunication & broadcasting companies conduct their business affairs.

The CRTC and FCC experiences that have focused attention to their skill as telecom & broadcasting regulators must serve as object lessons for India which is accepted as being the fastest growing telecom market in the world as well as a country with has strong indigenous space applications capability, nevertheless held back by a government slow to free the regulator and incumbents from its control.

1. CANADA AND CRTC

The Canadian Radio-television and Telecommunications Commission (CRTC) was established in 1968 as an independent public authority[261] and reports to Parliament through the Minister of Canadian Heritage.

The CRTC is vested with the authority to regulate telecommunications common carriers and service providers that fall under federal jurisdiction[262] as well as to regulate and

[261] Canadian Radio Radio-television and Telecommunications Commission Act, 1985(S.C. 1985, c. C-22, as amended), www.crtc.gc.ca/eng/LEGAL [CRTC Act 1985]

supervise all aspects of the Canadian broadcasting system[263]. The CRTC derives telecommunications regulatory powers from the Telecommunications Act and the Bell Canada Act[264] and derives its regulatory authority over broadcasting from the Broadcasting Act. Thus CRTC is the telecommunications and broadcasting regulator.

Although, overall CRTC has functioned independently and guided the deregulation and consequent growth of both the sectors, in the recent past the Commission has been subject of sharp criticism. Technological developments resulting in a slew of new industry applications have put CRTC at disadvantage as it struggles to bring those applications under its old umbrella[265].

As the transition of the telecommunications and broadcasting industries from regulated monopolies to competitive markets continues, it would be beneficial to describe the authority of the CRTC under the Telecommunications and Broadcasting Acts and that of the Competition Bureau under the Competition Act. This is because of the complementary roles of the two organizations and the fact that the Commission is now moving beyond opening markets to competition and is exercising its powers to forbear from regulation in the area of telecommunications.

This is not to suggest that there should be any limit to the responsibility or authority of the Commission or the Bureau to administer the respective legislation for which they are responsible. It is recognized that in addition to competition issues the Commission fulfills many other statutory objectives while the Bureau focuses its functioning on issues related to competition[266].

CRTC argues that there is not enough competition in the telecommunications industry. In a public notice issued in December 2004 CRTC suggested artificially handicapping the former telephone monopolies (such as Bell or Telus) to enable new providers to enter the

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[262] The Telecommunications Act, Statute of Canada, (S.C. 1993, c. 38, as amended), www.crtc.gc.ca/eng/LEGAL, See Chapter 38.[TA 1993].
[263] The Broadcasting Act 1991, Statute of Canada, (S.C. 1991, c. 11, as amended) www.crtc.gc.ca/eng/LEGAL, See Chapter B-9.01[B Act 1991].
[264] Bell Canada Act, Statute of Canada, (S.C. 1987, c.19 as amended) www.crtc.gc.ca/eng/LEGAL, See Chapter 19 [BC Act 1987].
[265] "The CRTC: Still Way Behind" article posted 9th December 2004, www.radio.blogware.com , See for a criticism of CRTC's bureaucratic style (accessed on 2d February 2005).
[266] CRTC/Competition Bureau Interface, http://strategis.ic.gc.ca/epic/internet/incb-bc.nsf/en [CRTC/CBI]

market. Ironically, such regulations are anti-competitive in light of the more realistic and relevant vision of competition which has replaced the ideal of 'perfect competition'[267]. This new concept of competition calls for less regulation from public authorities. However, CRTC appears to ignore it and still persists in its impossible attempts to ensure a high number of telecommunication providers in order to artificially stimulate "perfect" competition. Although the CRTC may argue that little competition exists (i.e., former monopolies still control more than 95% of local wire-lines), the competitive process in Canada has been rather strong in the telecommunications sector overall.

Until the 1990s public authorities (the CRTC since 1976) had been forbidding free entry in the sector of wire-line telephone services. But instead of simply removing all the legal barriers to entry because this regulation was no longer economically justifiable, the CRTC began artificially favoring new competitors entering the sector. CRTC requires former monopolies to price their own basic retail services (say, access to a local loop) at 25% over estimated cost and sell the same services to their competitors at wholesale prices of cost plus 15%. In other words, CRTC seems to want to force former monopolies to give their competitors a margin guarantee even though such protections are cutting the competitive potential of former monopolies and are contrary to the very nature of the competitive process, even if this may occasionally increase the number of service providers. On the other hand, CRTC wants to force on the former monopolies a 10% cap on the discounts they offer on bundled services (for example, local and long-distance service with Internet access), plus put a limit on the discounts offered on high-volume and long-term contracts. In such a scenario it is obviously that the competitive process is hampered. Even when measured by the number of competitors and their market share, competition in the telecom sector is well established. New competitors have a 20% share in long-distance calls. In a number of large urban areas, they supply 10% to 20% of local business lines. In certain urban markets, their residential penetration is much higher than the CRTC's aggregate data suggest[268]. But more importantly,

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[267] *Ibid,* In economics, the concept of competition has been evolving over time. An ideal of "perfect competition" once required many small competitors; so many that none could individually influence the market price. This ideal gave politicians the theoretical legitimacy to regulate economic activity. In this respect, even modern antitrust legislation aims unrealistically at preserving a reasonable number of competitors and at restricting firms' "dominant positions."

[268] Statistical Data, www.crtc.gc.ca/eng/stats/htm [Statistical Data]

competition comes not only from firms operating in the traditional wire-line telephone industry but also from other related industries. It is likely that phone (wire-line and wireless) companies, cable companies, internet-based competitors, and perhaps even electricity utilities will soon offer the same telecommunications and broadcasting services. For example, Rogers Communications, whose Rogers Cable subsidiary is the largest cable company in Canada, recently announced its intention to compete with phone companies by offering internet telephony (VoIP) services. Vonage and Group Telecom have just launched VoIP services on the Canadian residential market. AOL Canada and Microcell have announced that they, too, will join the fray.

All this suggests that new technologies and ways of providing telecom services by means other than through the traditional networks are a clear manifestation of the competitive process at work. It is contended that there is no legitimacy for the CRTC to continue being concerned with the number of telephone providers because real competition will only be curbed by artificial handicaps and regulated prices. Instead of extending them to the new field of internet telephony CRTC could consider a complete overhauling the governing statutes to make these responsive to the challenges of new technology. There is a suggestion from some sections of the industry that CRTC would be better advised to consider a complete deregulation of Canadian telecommunication[269].

Another important issue for consideration is whether CRTC is able to function both as regulator and adjudicator[270]. The quasi-judicial model of the CRTC and its activities conform to the regulatory agency structures and roles recommended by international organizations (e.g., ITU, OECD, World Bank). This model offers numerous advantages over total reliance on a competitive market and oversight by competition law models. These advantages include: (i) the ability to deal with complex economic and social objectives at macro (competition) and micro (content, access, pricing, etc.) levels; (ii) optional proactive and reactive involvement/intervention; (iii) greater propensity/means for public participation in decision making; (iv) a broadly mandated monitoring/oversight capability; (v) substantive staff expertise developed over a number of years; (vi) the ability to incorporate a wide set of policy objectives in decision making; and (vii) a

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[269] *Ibid*

[270] Department of Justice, Canada, document relating to Summative Evaluation of the Dispute Resolution Fund, October 17, 2003, www.canada.justice.gc.ca .

broad set of policy and regulatory tools to craft regulatory frameworks and resolve disputes.

In the late-90s, the CRTC experimented with ADR on an *ad hoc* basis which has now become a permanent and integral component. CRTC has put into place ADR process to enable complainants to bridge the gap between itself and the courts. While the cost of manpower training was extremely modest, the project has demonstrated that any organization contemplating adding ADR processes to its repertoire needs to engage in considerable upfront preparatory work like consultations with stakeholders and the development of an ADR framework to determine whether an organization should implement ADR into its system. The CRTC has handled 15 cases through the use of ADR practices since the development of its ADR framework. None of these cases developed into a case requiring a formal hearing. The Senior Counsel at CRTC has estimated the overall cost savings to the CRTC as a result of these matters being resolved through ADR v. the traditional complaint process at approximately CAD $240,000. With respect to time-savings, 80% of respondents in the Consultant's report agreed that the CRTC ADR process was faster than the traditional CRTC process[271]. The fact that CRTC is both licensor and regulator makes the success of its disputes resolution mechanism worthy of emulation.

The third critical issue pertains to norms governing foreign ownership in telecommunications and broadcasting[272]. Canada has made commitments on all basic telecom services, with phase-in of some commitments at the WTO negotiations on basic telecommunications services. Canada also adopted the Reference Paper on Regulatory Commitments. Presently, Canada retains a 46.7 % limit on foreign ownership, a requirement for "Canadian control" of basic telecom facilities and routing restrictions for the use of Canadian facilities for domestic traffic. For instance, market access to the Canada-non-U.S. international services market and to land submarine cables was not granted until October 1, 1998 and will be phased out over time.

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[271] *ibid*

[272] Detailed Report on issue of foreign direct investment in Canada, sice.oas.org/geography .

With respect to broadcasting, the Broadcasting Act[273] sets out the broadcasting policy for Canada "to safeguard, enrich and strengthen the cultural, political, social and economic fabric of Canada." CRTC as the federal broadcasting regulator is charged with implementing this policy. Under the current policy in cases where a Canadian service is licensed in a format competitive with that of an authorized non-Canadian service, the Commission can drop the non-Canadian service, if a new Canadian applicant requests it to do so. This policy has already led to one "de-listing" and deterred potential new entrants from attempting to enter the Canadian market. In the recent past there has been an uproar in the industry on account of CRTC's decision to cancel licenses of CHOI-FM radio and RAI International Television while at the same time granting license to the Al-Jazeera Television network. The article "Why not just shut down CRTC? Well..." dated 4th July, 2004 by columnist John Ibbitson published in the Globe & Mail is self explanatory.

"The Canadian Radio-television and Telecommunications Commission, aware of the politics that surround the award of broadcasting licenses, waited until after the election to release its decisions not to renew the license of radio station CHOI-FM in Quebec City (because of its hosts' penchant for saying hurtful things), to permit the broadcast of the Arab-language news service Al-Jazeera (but with crippling restrictions) and to refuse a license to Italian state broadcaster RAI International.

Quebeckers are livid about the cancellation of CHOI, because they love foul-mouthed radio jocks as much as anyone; Jews are furious that Al-Jazeera has been let in, because they consider it anti-Semitic; Arabs are equally angry at the restrictions on Al-Jazeera; and many, many Italians, including Liberal MPs, are incensed that RAI has been kept off the air...

..... So Heritage Minister Liza Frulla and the Liberal cabinet may well issue the CRTC a directive to revise its policy criteria in such a way that RAI gets a license. As for the Arab Canadians and Quebec City radio listeners, divine intervention from Ottawa may be too much to ask for. There aren't that many Canadian Arabs, and Quebec City went Bloc.

At this point, many of you are asking: Why not just shut down the CRTC and award digital satellite licenses to anyone who wants one? Why not let radio and television stations buy and sell their frequencies as they see fit? There are two reasons why, one good and one bad.

The good reason is that, without an arm's-length agency, politicians would be responsible for issuing broadcast licenses and everything on the air would extol the virtues and values of the Liberal Party of Canada.

The bad reason is that the CRTC protects Canadian broadcasting from American competition. (Unfair in that they do it much better than we do.) RAI is being kept out to keep HBO and Fox News out."[274]

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[273] B Act 1991, supra note 232 at 76.

[274] John Ibbitson, "Why not just shut down CRTC? Well..." article in Globe & Mail, dated 4th July 2004,*jibbitson@globeandmail.ca* (accessed on 15th September 2004)

Realizing that canceling CHOI-FM, Quebec City's top rated radio station effective August 31st 2004 would be an abuse of its regulatory powers[275], CRTC backtracked from that decision, without admitting that it was wrong, and deferred closing the station until the Federal Court of Canada rules on an Appeal from the CRTC decision likely to come up early 2005.

Thus in the age of direct to home satellite broadcasting, broadband and internet telephony all of which are a short step from obliterating the line between traditional 'telecommunications' & 'broadcasting' regulators worldwide will have to reinvent the laws they implement as well as the terms of their own mandate under law, without prejudice to national interests and internal security. Clearly telecom deregulation will be based on two main platforms: first, the protection of consumer interest by functioning effectively as an anti trust body without stifling innovative technology applications; second, the protection of national sovereignty and internal security while at the same time enabling success in global competition.

That being said, a report entitled 'Communications Regulatory Agencies for Canadians' by Andrew Reddick concludes that "Even with its faults, the CRTC is the only institution available and capable of ensuring that Canadians' communication needs are being properly met[276]".

We may conclude by observing that in continuing to regulate telecommunications and broadcasting sectors under existing statutes CRTC's ability to function as an effective regulator in view of the challenge of regulating an industry now driven by convergence technologies that have wide trans-border implications. Thus the important lessons which

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[275] CRTC was acting as the 'morals inspector', if you will, when it decided to close CHOI-FM on grounds of objectionable content of its programs. From the point of view of the objectors, such an action by CRTC is outside the jurisdiction of the regulator and an arbitrary exercise of its power.

[276] Andrew Reddick, Report related to 'Communications Regulatory Agencies for Canadians', www.andrewreddick.ca . The report found that market forces and competition will deliver on some policy objectives, but there will be an ongoing and important role for public oversight and selective regulation to achieve the full range of economic and social objectives. Another major finding of the study is that the CRTC is an important and necessary regulatory agency and, the most appropriate institution to oversee the ongoing development of communication markets in Canada. The report found that the Competition Bureau and competition law have very minor roles to play in this sector and, the Competition Bureau is unable to protect or accommodate the interest of consumers in the communication sector, (accessed on 15th September 2004).

India must derive from the Canadian experience is the urgent need to put in place an effective communications convergence statute and to deregulate the telecommunications & broadcasting industry at a purposeful pace.

2. THE UNITED STATES OF AMERICA AND FCC

The Federal Communications Commission (FCC) is an independent United States government agency, directly responsible to Congress. The FCC was established by the Communications Act of 1934 and is charged with regulating interstate and international communications by radio, television, wire, satellite and cable. The FCC's jurisdiction covers the 50 states, the District of Columbia, and U.S. possessions.

The FCC is composed of five Commissioners appointed by the US President and confirmed by the Senate for 5-year terms, except when filling an unexpired term. The President designates one of the Commissioners to serve as Chairman. Only three Commissioners may be members of the same political party. None of them can have a financial interest in any Commission-related business. As the Chief Executive Officer of the Commission, the Chairman delegates management and administrative responsibility to the Managing Director. The Commissioners supervise all FCC activities, delegating responsibilities to staff units and Bureaus.

The Commission staff is organized by function. There are six operating Bureaus and ten Staff Offices. The Bureaus' responsibilities include: processing applications for licenses and other filings; analyzing complaints; conducting investigations; developing and implementing regulatory programs; and taking part in hearings. The Offices provide support services. Even though the Bureaus and Offices have their individual functions, they regularly join forces and share expertise in addressing Commission issues[277].

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[277] Federal Communications Bureau, www.fcc.gov/
Consumer & Governmental Affairs Bureau - educates and informs consumers about telecommunications goods and services and engages their input to help guide the work of the Commission. CGB coordinates telecommunications policy efforts with industry and with other governmental agencies — federal, tribal, state and local — in serving the public interest; Enforcement Bureau - enforces the Communications Act, as well as the Commission's rules, orders and authorizations; International Bureau: represents the Commission in satellite and international matters; Media Bureau - regulates AM, FM radio and television broadcast stations, as well as Multipoint Distribution (i.e., cable and satellite) and Instructional Television Fixed Services; Wireless Telecommunications Bureau - oversees cellular and PCS phones, pagers and two-way radios. This Bureau also regulates the use of radio spectrum to fulfill the communications needs of

President Kennedy signed the 1962 Communication Satellite Act[278] designed to implement the policy to make new, expanded efficient and reasonably priced telecommunication services as promptly as was practicable not only to US citizens but also to economically less developed countries and efficient and economical use of electromagnetic frequency spectrum. The Act provided for development of the telecommunications sector by allowing for the widest possible participation by private enterprises based on maximum competition and by ensuring that all authorized users had non-discriminatory access to the services offered. The 1962 Act laid the principles for developing satellite telecommunication services in the U.S[279]. Subsequently, the 1996 Telecommunications Act [280] (Title 47, Vol.I) was passed [281] to enable any citizen to enter any communications business and to foster competition. Consequently, the 1996 Act has affected the way Americans work, live and learn because it impacted all telephone services....local and long distance, cable programming and other video services, broadcast services and services provided to schools. The Federal Communications Commission has played an important role in creating fair rules for the new era of

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businesses, local and state governments, public safety service providers, aircraft and ship operators, and individuals; Wireline Competition Bureau - responsible for rules and policies concerning telephone companies that provide interstate, and under certain circumstances intrastate, telecommunications services to the public through the use of wire-based transmission facilities (i.e., corded/cordless telephones); Office of Administrative Law Judges - presides over hearings, and issues Initial Decisions; Office of Communications Business Opportunities - provides advice to the Commission on issues and policies concerning opportunities for ownership and contracting by small, minority and women-owned communications businesses; Office of Engineering & Technology - allocates spectrum for non-Government use and provides expert advice on technical issues before the Commission; Office of the General Counsel - serves as chief legal advisor to the Commission's various Bureaus and Offices; Office of Inspector General - conducts and supervises audits and investigations relating to the operations of the Commission; Office of Legislative Affairs - is the Commission's main point of contact with Congress; Office of the Managing Director - functions as a chief operating official, serving under the direction and supervision of the Chairman; Office of Media Relations - informs the news media of FCC decisions and serves as the Commission's main point of contact with the media; Office of Strategic Planning & Policy Analysis - works with the Chairman, Commissioners, Bureaus and Offices to develop strategic plans identifying policy objectives for the agency; Office of work Place Diversity - advises the Commission on all issues related to workforce diversity, affirmative recruitment and equal employment opportunity.

[278] 1962 Communication Satellite Act, Source: Pub.L.87-624,title I,Sec.102, Aug 31,1962,76 Stat.419, www.washingtonwatchdog.org/documents
The 1962 Act established the Communications Satellite Corporation which was joined by agencies of 17 countries to form the International Telecommunications Satellite Corporation (INTELSAT) and subsequently the International Maritime Satellite Corporation (INMARSAT).

[279] *ibid*
[280] 1996 Telecommunications Act, www.fcc.gov.telecom.html [T Act 1996]
[281] 1934 Communications Act, www.fcc.gov.telecom.html [C Act 1934]
The 1934 Act is divided into several 'Titles', one of which includes satellite and other wireless communications systems.

competition of the 1990s by opening up local phone markets and increasing competition in long distance, among other such steps. However, within the decade, new technological applications have thrown up new challenges to the existing legal and regulatory framework as much in the US, as in other countries. The current debate centers on the appropriate classification and taxation norms for VoIP service[282].

Speaking at the Progress and Freedom Foundation in Aspen, Colorado, on challenges facing the telecommunications industry with the advent of VoIP, broadband and wireless, the former FCC Chairman Michael Powell[283] said that there was urgent need for new telecom laws in the United States[284]. Recognizing that US Communications policy was at

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[282] Declan McCullagh, 'FCC Chairman calls for new telecom law 'dated 23rd August 2004, Staff Writer, CNET News.com.
"The Head of the Federal Communications Commission said on Monday that the nation's telecommunications laws, written before the rise of the Internet, are "broken" and need to be fixed by Congress. Powell singled out voice over Internet Protocol (VoIP) as a "killer app for legal policy change" because it pits two different regulatory models against each other and forces governments to choose which will prevail. The two models: a highly-regulated "common carrier" environment of cable TV and telephone service, and the lightly-regulated world of the Internet.
Key politicians already have said that they intend to revisit the 1996 Telecommunications Act starting next year. Powell's criticisms seem designed to influence the direction of the debate: "Just giving (Internet Protocol) and Internet communications a category of its own would be a good start."
"VoIP is a great thing to be forcing the conversations," Powell said. "I'd like to see (the law) modified, rewritten, scrapped or something... I think the statute is written (with categories) that don't make sense" in today's world of VoIP, broadband and wireless technologies. "Powell's comments at a Progress and Freedom Foundation conference here mark his strongest criticism yet of the 1934 and 1996 telecommunications acts, which created arcane regulatory categories that do not clearly include the Internet. That lack of clarity has bedeviled regulators and left entrepreneurs puzzled about what laws might eventually apply to their businesses." (accessed on 17th September,2004)

[283] Mr. Kevin Martin is the incumbent Chairman FCC

'Look out Howard! The FCC Wants to Regulate Cable and Satellite', www.womenmatters.org

On March 16, 2005, President Bush named Kevin Martin chairman of the FCC. Martin is in favor of regulating cable and satellite stations, whereas his predecessor, Michael Powell, was not. Powell, the son of former Secretary of State Colin Powell, resigned after four years as head of the agency. Powell led the charge against broadcast indecency, but was also known for being pro-business. Martin, on the other hand, is likely to be less friendly to the cable and satellite industries. He's already threatened to regulate them if they don't offer more "family friendly" channel packages as he has suggested. Bush was able to avoid a possibly contentious nomination process by choosing Martin, who is already a sitting commissioner of the FCC. Martin's replacement, however, will need to be confirmed by the Senate. Until the Senate agrees to a new commissioner, the commission will be made up of two Democrats and two Republicans.

' Powell leaving FCC', http://money.cnn.com, article reporting that Mr. Michael Powell who joined FCC in 1998 as a Member and became Chairman FCC in 2001 has submitted his resignation on 21st January 2005 and will leave office in March 2005,[Powell leaving FCC] (accessed on 2nd February 2005)
[284]

an important crossroads, former FCC Chairman acknowledged that internet-based phone calls were fundamentally different from traditional communications, which led him to conclude that economic regulation should be approached with "significant skepticism". In proceedings likely to last several months, FCC is expected to rewrite rules that could revolutionize the U.S. phone system. While calibrated deregulation to achieve an optimum balanced goal is to be recommended, deregulation that camouflages a distinct political agenda which is sure to create severe imbalance, allegedly underway in the US has drawn widespread condemnation both from consumers, non- government organization and industry.

Powell's statement that phone calls made over the internet are conceptually and technologically different from regular calls touches upon the main issue of 'classification'. The Commission will also need to determine whether internet-based phone calls should be considered telecommunications services subject to the same rules as traditional phone networks or whether they should be declared information services, and thus skirt the usual rules.
The classification issue is crucial because billions of dollars in access fees are at stake. Each year, long-distance carriers pay local phone companies a significant amount of money to complete their calls. Should operators using the new technology be forced to do the same, the added expense would drastically diminish their consumer appeal. AT&T and Verizon Communications are the only traditional phone companies to have started migration to an Internet Protocol (IP) network and asked the FCC to rule that it does not owe fees to other companies when it transmits calls over the internet. However, earlier in 2005 when FCC ruled against AT&T that it owed several hundred million dollars in back taxes on its VoIP services.

Another big issue that the Commission will have to clarify is whether purveyors of the new technologies will be required to contribute towards the universal service fund, a scheme set up long ago by local phone monopolies to keep rates down in some underserved areas through artificial subsidies. What should the FCC to do? If it allows the new phone companies to elude the customary taxes applicable to phone networks, the decision is likely to hasten consumers' migration to the tax-free technology, darkening the already dire prospects of local phone companies like SBC Communications and Bell

South, unless they can quickly counterattack. The FCC's main role is to function as an antitrust body and to nurture healthy competition in the industry, not to handicap revolutionary technology in an effort to protect incumbents. It would be a devastating move for innovation.

It is being urged that there is no ground for regulating internet-based phone calls. The former FCC Chairman seemed to agree last December when he said, "As one who believes unflinchingly in maintaining an internet free from government regulation, I believe that IP-based services such as VoIP should evolve in a regulation-free zone." Those that support telecom deregulation are hoping for a FCC ruling in the interest of consumers that computer-to-computer calls do not fall under the rules applicable to telecommunication services.

Meanwhile, in addressing the critical issue of homeland security and law enforcement in August 2004, FCC ruled by unanimous vote that internet telephony should be subject to traditional wiretap laws[285]. This preliminary decision will force Voice over IP providers to comply with the same law enforcement rules as telephone carriers. In the Notice for Proposed Rulemaking, FCC held that Communication Assistance for Law Enforcement Act (CALEA)[286] applies to facilities-based providers of any type of broadband internet access service, including wire line, cable modem, wireless, satellite, power line as well as "managed or mediated" VoIP services.

"CALEA requirements can and should apply to VoIP and other IP-enabled service providers, even if these services are 'information services' for the purposes of the Communication Act," former FCC Chairman Michael Powell said. "Above all, law enforcement access to IP-enabled communications is essential."

Earlier in 2004, the Justice Department, the FBI and the Drug Enforcement Agency asked the FCC to promulgate rules requiring broadband networks to comply with CALEA. The request came as the FCC embarked on a year-long review of IP-enabled services. The former Chairman said the ruling was "expressly limited to the requirements of the

[285] US Wiretap Law, US Code 18, 2511, www.epic.org/privacy/wiretap
[286] Communication Assistance for Law Enforcement Act 1994 codified at 47 USC 1001-1021, www.askcalea.net

CALEA statute and does not indicate a willingness on my part to regulate VoIP services as telecommunications services.[287]" Unfortunately, there is no guarantee that his opinion will prevail since his initiatives to relax the rules which governed the Baby Bells and to permit expansion of the maximum size and reach of broadcasters[288] met with heavy criticism and were undercut by the courts.

If Powell had succeeded, his push to remove restrictions on unfettered consolidation of broadcast media would have, in the words of dissident commissioner Michael Copps, "dramatically [alter] our nation's media landscape without the kind of debate and analysis that these issues clearly merit." Even media moguls Barry Diller and Ted Turner had raised objections, with Turner complaining, "There's really five companies that control 90 percent of what we read, see and hear. It's not healthy." Public hearings on the subject drew thousands of citizens and close to universal condemnation of the rule changes. Likewise, an examination of roughly half the 18,000 public statements filed electronically

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[287] Mark Roy, 'FCC Says VoIP Subject to Wiretap Laws' article dated 4th August 2004, www.internetnews.com (accessed on 17th September,2004)

[288]Don Hazen, "Showdown at the FCC", Executive Editor, AlterNet.org writes that there has been sharp criticism of the Bush Administration and powerful media conglomerates, Federal Communications Commission Chairman Michael Powell tried to push a vote in June 2003 to gut longstanding rules designed to prevent the growth of media monopolies.

"The Bush administration will soon hand the nation's biggest media conglomerates a new give-away that will concentrate media ownership in fewer hands. On June 2, the Federal Communications Commission, run by Michael Powell (son of Colin), plans to end long-standing federal checks and balances on corporate media power. Companies behind the measure include the powerhouses of corporate media power: Rupert Murdoch's News Corp/Fox, General Electric/NBC, Viacom/CBS, Disney/ABC, Tribune Corp and Clear Channel. Once the rules are swept away, expect to see more mergers and buy-outs of radio and TV stations, major papers and even TV networks. It will then soon be possible for a single conglomerate to control most of a community's major media outlets, including cable systems and broadband Internet service providers. There will be fewer owners nationally of all major media outlets of communications. Right-wing powerhouses are also likely to grow more powerful soon, unless opposed. Rupert Murdoch's Fox is planning to take over the country's most power satellite service, Direct TV. He will be able to not only control access to millions of households, he will use it as a "Death Star" to further expand his broadcast and cable TV empires. Meanwhile, liberals -- let alone progressives -- have no ownership influence over any major media outlet. Not surprisingly, the media conglomerates thirst for more control as they seek to end media ownership limits. What all this means for our nation hasn't been covered by the media. There has been no TV network news coverage on the impending media give-away. Nor have the major dailies explained to readers what their lobbyists are doing and how such changes will affect journalism, politics and the public's First Amendment rights to a system fostering diversity of viewpoints and expression.

A rare exception was a recent column in The New York Times by conservative pundit William Safire arguing that the media system is hiding the real story because it is unwilling to "expose the broadcast lobby's pressure on Congress and the courts to allow station owners to gobble up more stations and cross-own local newspapers, thereby to determine what information residents of a local market receive." The proposed FCC rule changes will further weaken the ability of mainstream journalism to serve as a critical public safeguard. Soon, reporters at newspapers will have to pay attention to whether they get TV ratings, once their papers become part of larger TV empires concerned about promoting advertising and "brandwashing." More importantly, the country will have even fewer gatekeepers over the news and popular culture that informs much of public consciousness. " (accessed on 18th September,2004)

with the FCC showed that 97 percent of them opposed permitting more media concentration[289].

The protests notwithstanding, Mr. Powell was advised by the Government to push ahead with removing safeguards to enable consolidation in the industry. In the uproar that followed, fears were expressed that the massive consolidation in cable TV and with online communications would result in just two massive cable companies -- Comcast and AOL Time Warner -- becoming legally permitted to own almost all of the nation's cable TV systems. The action by FCC to remove critical safeguards to enable cable and telephone giants to dominate high-speed Internet access caused alarm at the ACLU as well as other monopolists like Microsoft and Disney. Thus deregulation of telecom together with consolidation of media in an age of convergence is bound to have stark ramifications. This includes buying spree by some communications companies, distortion of advertising, stifling alternate views, including female voice[290] that will inevitably come when local news models are created from central sources thousands of miles away. The questions inevitably arise, how independent is the FCC? And can FCC discharge its role the impartial watchdog for the industry where Commissioners are political appointees at the pleasure of the President? It is pertinent that the U.S. Third

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[289]Nichols John, Washington Correspondent of *The Nation,* 'FCC: Public Be Damned', www.thenation.com has covered progressive politics and activism in the United States and abroad for more than a decade. He is founder of the media-reform network Free Press, one of the groups named in this article dated 15th May, 2003.

" Local governments are also getting involved; the Chicago City Council urged rejection of the proposed changes in a resolution that declared: "Unchecked media consolidation benefits a small number of corporate interests at the expense of the public interest."
Noting that the consolidation of radio ownership that followed passage of the 1996 Telecommunications Act has proven disastrous for pop music, journalism and local communities, Bonnie Raitt, Billy Joel, Don Henley, Patti Smith, Pearl Jam and other musicians signed a letter telling Powell they were "extremely concerned as American citizens that increased concentration of media ownership will have a negative impact on access to diverse viewpoints and will impede the functioning of our democracy." Nearly 300 academics signed a letter to the FCC protesting Powell's refusal to allow an evaluation of the "research" he has talked of using to justify relaxing the media ownership rules. The national associations of Hispanic and black journalists called on the FCC to delay action until more study of threats to diversity could be completed. Leaders of the AFL-CIO, the Leadership Conference on Civil Rights, the Consumer Federation of America and many other groups argued that Powell had not allowed enough time to analyze the potential damage to democracy.
On Capitol Hill, nearly 100 House Democrats signed a letter by Representatives Bernie Sanders, Maurice Hinchey and Sherrod Brown calling on Powell to delay the June 2 vote on the rules, open the process to public comment and demonstrate how his proposed changes in ownership limits will serve the public interest by promoting diversity, competition and localism. Fifteen senators, led by Maine Republican Olympia Snowe, declared in a letter to the FCC: "We believe it is virtually impossible to serve the public interest in this extremely important and highly complex proceeding without letting the public know about and comment on the changes you intend to make to these critical rules." (accessed on 17th September, 2004).

[290] Rivers Carly, author, series of articles on FCC, www. womensenews.org , (accessed on 18th September 2004)

Circuit Court of Appeals recently overturned the FCC's dramatic decision to loosen media ownership rules. Media reports suggest that feeling was clearly growing that the FCC must be kept in check[291].

In context to its role as the broadcasting regulator FCC pushed for increased fines for obscenity and indecent content by the nation's broadcasters[292]. In September 2004 the FCC fined Viacom (research) which owns CBS, US $550,000 for the 2004 Super Bowl half-time show in which Janet Jackson's breast was briefly revealed during a musical number. The media conglomerate is challenging that fine. In November Viacom agreed to pay a record US $3.5 million to settle a number of complaints involving alleged indecent comments on its radio stations, including remarks by its most popular radio personality, Howard Stern. Partly to get away from FCC oversight, Howard Stern signed a contract to move to satellite radio provider Sirius (Research) in 2006. On his show Friday, before the official announcement Stern cheered that Powell would be leaving. "Thank God he's gone," he said. "This is a great day in broadcasting." [293]

A discussion about FCC cannot be complete without a mentioning its international spectrum relocation policy. It is generally accepted that the administration in the US is always reluctant to give effect rules of international law in domestic policy, while demanding that very action form all countries of the world[294]. In his essay on the subject[295] Sipwak challenges US policy "via FCC[296]" to kill the commercial satellite

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[291] Eric Boehlert articles on media concentration at dir.salon.com (accessed on 18th September,2004)

[292] 'Look out Howard! The FCC Wants to Regulate Cable and Satellite', www.womenmatters.org

Current law prohibits network television stations and non-satellite radio stations from airing references to sexual or excretory activities or organs between 6 a.m. and 10 p.m., when children are more likely to be listening and watching.

But the FCC has no control over cable and satellite stations

[293] 'Powell leaving FCC', supra note 236 at 90, (accessed on 3rd January 2005)

[294] The Economic Times, New Delhi, AFP, Geneva news report 'Defeats in WTO may force protectionism in US', dated 6th September 2004, www.economictimes.com , (accessed on 7th September,2004)

[295] L.J.Phoenix Spiwak, "Whatever happened to Consumer Welfare? How the FCC's International Spectrum Relocation Policies Deter- Rather than Promote- new Facilities-Based Entry for Advanced Satellite Telecom Services", Government Regulation of Space Activities VolI, ed. Prof. Ram Jakhu, Institute of Air & Space Law, Faculty of Law, McGill University, Montreal, Canada. pp.346-355

market, a matter accepted universally as being in public interest, by enacting poorly conceived international spectrum policies by erecting entry barriers in consequence of which the growing 'telecom wars' are bound to spiral out of hand. Such a "cookie-cutter" approach to spectrum management is *per se* arbitrary and capricious, because what is good for the US domestic wireless industry is not *a fortiori* good for the international satellite industry since such a policy achieves the unjust enrichment of spectrum incumbents in violation of both the US and international law[297]. It is clear that by such unilateral action in respect to new entrants, the US government continues to demonstrate to the international community that America believes that its own commercial and national interests supersede its international commitments. Rather than affirmatively promote competition and free trade, the FCC has created a strong incentive to close markets in direct violation of the letter and spirit of the February 1990 WTO Accord on Basic Telecom Services[298]. As Federal Reserve Chairman Alan Greenspan has warned that such "an essentially adversarial" approach will do nothing but harm overall consumer welfare as also be detrimental to the interests of the U.S. This is one of the manifestations of the clear U.S. policy that could well result in denial of access to outer space to other countries as is mandated in the various U.N. treaties on activities in outer space[299].

The lessons for India from the American experience are clear. The central government must look into the taxation aspects of convergence technologies to ensure a balance between need for national revenue and need for accelerated development of the telecom and broadcasting sectors. The transnational character of convergence technologies bring to fore the inevitable question of securing national security, both internal and international in the US, as it will in India. India will have to ensure that its law enforcement and other relevant statutes are made responsive to the convergence technology so as to compliment and assist their functioning.

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[296] *Ibid.* " The root cause of the problem stems from the FCC's ill conceived notion that new entrants into the international satellite market should be forced to pay spectrum fees just as new entrants had to pay in the domestic PCS context."

[297] *Ibid*

[298] *Ibid.*

[299] The Joint Vision 2020, released on 30th May, 2000 guides the evolution of the United States Space Command's military space strategy. To fulfill the Vision, Space command has developed an ambitious Plan that will assure the US 'access to space, freedom of operations within space medium, and an ability to deny others the use of space, if required", http://www.spacecom.af.mil/usspace (accessed on 18th September 2004)

In conclusion, the challenges posed by technological developments and globalization are compelling CRTC are FCC to revisit their laws and regulatory mechanisms. The need is for constant evolution to respond not only to the rapidly changing market place but to maximize benefit of technological development. Whether the Canadian or the U.S. regulatory model should be replicated is a matter of opinion, needless to say that each country has unique parameters and the best approach would be to study how CRTC and FCC are tackling the various issues that confront them. Developing countries have the unique advantage of being able studying those experiences, plan well in advance to avoid the pitfalls and to assimilate the advantages of rapid developments in the telecom sector that will come sooner than later.

Chapter V

Conclusion

" The creation of world class telecom infrastructure in order to meet the requirements of IT based sectors, the need to modernize the economy on the least cost basis ,the need to ensure value for money to the consumers and easy, affordable access to basic telecom services to everyone everywhere..... ".

Statement of goals for the Telecommunications Sector in India

Tenth Plan 2002-2007[300]

A POSSIBLE ROADMAP FOR INDIA

In concluding the present analysis of the regulatory mechanism in India the proposition which emerges is that the second generation reforms underway since 1999 are being moved into their next phase by the Central Government at a pace that is no longer acceptable in view of rapid technological developments. The clearest indication is that with just two years left to the close of the Tenth Plan period, the process of deregulation continues to be impeded by the government's anxiety to protect incumbents from competition and market forces, reluctance to rewrite existing statutes and the absence of a clear policy and statutes to govern satellite communications. Consequently the achievement of the goal of NTP 99 to establish world class telecommunications infrastructure in India to help improve competitiveness in the global markets remains as distant in 2005 as it was in 1994. In this view of the matter placed below are some suggestions for a roadmap that will carry India into the convergence age in this new century.

[300] Government of India, document relating to Tenth Plan 2002-2007 in specific reference to the telecom sector, www.dot.gov.in/plan

1. IMPLEMENT INTERNATIONAL CONVENTIONS ON OUTER SPACE THROUGH NATIONAL LAW

In this context it is pertinent to mention that India has ratified four of the five international conventions on outer space[301]. International obligations arising out of these treaties make India internationally liable and responsible for activities in outer space conducted by its own and its private entities. Therefore, India is obligated to ensure their due authorization and continuing supervision of such activities. International treaty obligations can be implemented nationally by legislating specific space laws. Presently India does not have national space laws to implement the international conventions.

Specifically for the purpose of this thesis, Guidelines issued by ISRO in May 2000 have designated Committee for Authorizing the Establishment and Operation of Indian Satellite Systems (CAISS)[302] as the agency responsible for licensing the authorization to operate, orbit spectrum notification and registration of private satellite systems.

However, no information is available of how the Department of Space carries out continuing supervision of activities in outer space conducted by non government entities. Nor do the Guidelines indicate the quantum of liability to be imposed on the private operator both for damage caused, provision of mandatory insurance to cover liability, liability of the State (if any), indemnifying the State, waiver and cross-waiver requirements, jurisdiction, dispute resolution in case of damage caused by or to privately owned Indian space assets, applicable law and mechanism to seek appropriations from the central government to discharge liability in event of accident. It is important that licensing of private commercial satellite systems must be based on the principle of clear norms as to insurance, indemnification and cross waivers, the efficient use of orbit spectrum, the facilitation of the maximum number of systems with the minimum distortion, mechanism for ensuring continuing supervision of the space asset and the regulation of hitherto non regulated content providers is significant. More significantly the guidelines do not inform how the Department of Space would discharge the

[301] India has ratified the 1967 Outer Space Treaty, 1968 Rescue Agreement, 1972 Liability Convention and the 1974 Registration Convention. India is signatory to the 1976 Moon Agreement. www.oosa.vienna.org

[302] The office of CAISS is set up at the SatCom Programs Office at ISRO Headquarters, Antariksh Bhavan, New BEL Road, Bangalore- 560 094 www.isro.org

international liability. Without a statute for the purpose a private satellite operator cannot enforce his rights. Such a position does not encourage industry.

Thus a commercial satellite act, a space transportation law or a law to govern India's space activities which incorporates all aspects of liability arising out of the treaty to give a clear direction for private enterprise to flourish is the only foundation on which a lucrative space economy can flourish.

2. ENACT A NEW CONVERGENCE BILL

It is stated that of all space activities, satellite telecommunications including broadcasting sectors has seen most development in terms of the policy, legal regime and regulatory regimes. This is perhaps because of long existing terrestrial telecommunications and broadcasting laws that have provided a readymade framework, as it were, however defective and out of pace with current needs that it may be. The very low growth and access to telecommunication services in India on account of the absence of relevant law specific to satellite communications is demonstrated by low tele-density figure of 8.5% in December 2004.

The problem of governing satellite telecommunications through statutes that were designed to govern terrestrial telecommunications persists. The reluctance of the central government to enact a new convergence bill to deal with the satellite communications has been discussed in detail earlier in this paper, hence not repeated for the sake of brevity[303].

3. NOTIFICATION OF UNIFIED LICENSING REGIME

There are two prime examples of how Government continues to favor incumbents. First, has been the obvious discrimination in allowing BSNL, from its inception, to operate under a universal service regime through out the country excepting in the metro cities of Delhi and Mumbai which are served by incumbent MTNL while private service providers are required to obtain separate licenses for each service category[304] causing serious distortions in the market. Partial rectification of this anomalous situation came only with

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304 BSNL supra note 51 at 23. See chapter 3.5.

the 2003 Amendment to NTP 99[305] which merged basic and cellular services into a single the Unified Access License. However, the proposed unified licensing regime needs to be urgently notified to fully rectify the imbalance. It is obvious that any delay on the part of DoT in notifying the new licensing regime will be at the cost of growth in the sector and result in failure to achieve the Tenth Plan targets. In fact, it is widely believed in the telecom industry circles in India deregulation of the telecom sector has been achieved only because of pressure and lobbying by powerful private service operators.

With full implementation of unified licensing regime India will join a group of more than 80 countries where internet telephony is permitted. The key objective of the unified licensing regime is to encourage free growth of new applications and services leveraging on the technological developments in information and communication technology (ICT). It is therefore imperative to quickly implement unified licensing regime because this will enable industry keep pace with technological developments. The regime would facilitate service providers to find new ways to reach customers, create markets of the future and new revenue streams. The proposed reduction in regulatory costs and possibility of bundling of various services on the same media (wire line or wireless) would help customer get all kinds of telecom services at affordable prices. Allowing 'niche operators' would encourage small entrepreneurs to provide telecom services in rural, remote and telecom facility wise backward areas.

4. RATIONALIZING TAXATION: QUESTION OF ADC AND USO LEVY

The rate of Access Deficit Charge payable by private cellular mobile and fixed line operators to BSNL in compliance to terms of the Interconnection User Charge Regulations issued by TRAI, from time to time, remains a contentious issue. Stiff resistance by BSNL & MTNL to the recent Interconnection Usage Charge Regulation 2005 , effective 1st February 2005 that has drastically reduced the rate of ADC payable to BSNL illustrates the point. The situation had already been aggravated by BSNL when it announced a sharp reduction of tariffs for its subscribers[306]. Private cellular operators swiftly denounced BSNL and filed a petition before the TRAI on 8th September 2004

[305] ADD supra note 14 at 6

[306] In August 2004 BSNL announced a 33 % reduction in Domestic Long Distance and 60% reduction in cellular rates.

demanding the removal of ADC for rural service on the ground that BSNL had been able to cut tariff to such a low level only because it was getting undue advantage of up to Rs.5000 crores (about US$ 144,220,447) by collecting ADC from them[307]. In his communication to TRAI, Mr. T.V. Ramachandran, Director-General Cellular Operators Association of India (COAI) argued that "this ADC provides BSNL a very comfortable financial buffer and incentive to slash prices with impunity which none of the competitors can match"[308]. Although TRAI has had several consultations with affected parties to arrive at a conclusion, ADC remains a contentious issue chiefly because the central government has prevented an equitable solution fearing that this will cause a loss of revenue accruals to BSNL. In this context it is significant that in addition to allowing BSNL to receive ADC payment it was also exempted from paying the USO levy which is imposed on private service operators. This double financial benefit permitted to it by government is reflected as huge profits and reserves in BSNL Balance Sheets

Latest in the tariff war has been the rate reduction on STD tariff and pulse plan announced by Bharti[309], the second biggest private service provider in India. Predictably the drastic reduction of the level ADC rates payable to BSNL with effect from 1st February 2005 referred to in the preceding paragraph has met with stiff resistance from the incumbents. Meanwhile the Central Government's intention to continue subsidizing BSNL is clear from the fact that on 3rd February 2005 it has announced financial support of Rs 27 billion (about US$ 618,000,000) for BSNL[310]. This seems in keeping with the announcement made by the Minister of Communications Mr. Dayanidhi Maran in September 2004, that the Government has no proposal to privatize BSNL, although NTP 99 clearly states its goal of privatizing incumbents BSNL and MTNL.[311]

In this context on 28th December 2004 Minister of Finance Mr. P.C. Chidambaram was reported in the press as saying that the current tax structure applicable to the telecom sector was complex and needed to be simplified. Responding to this Mr. Sunil Mittal,

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[307] The Economic Times Online, citing Press Trust of India report "COAI petitions TRAI against ADC" 8th September 2004, www.economictimes.com , (accessed on 9th September 2004)
[308] *Ibid.*
[309] Hindustan Times, "Bharti slashes STD tariffs on minute, Pulse Plan", news report dated 7th September 2004, www.hindustantimes.com (accessed on 8th September, 2004).
[310] The Economic Times, www.economictimes.com, citing announcement dated 3rd February 2005 at dated 3rd February 2005 (accessed on 3rd February 2005).
[311] NTP 99, supra note 13 at 6.

CMD Bharti Enterprises speaking at the AGM of Ficci[312] said that there was scope for a 30% reduction in mobile tariff if government lowered taxes on telecom and that it was for government to decide whether mobile telephony was a 5 star service for only the rich or an essential service for the whole nation.[313]

5. ACCELERATE USO: PERMIT SATELLITE CONNECTIVITY FOR VSAT OPERATORS

The inexplicable delay of six years from 1997 -2004 to put in place the necessary legal structure for disbursement of USO subsidy to private operators to compensate them for costs incurred in USO roll out obligation mandated by terms of license is difficult to explain. This is especially significant because data collected by central government has consistently pointed to asymmetrical growth of tele- density in India clearly pointing to the failure fulfilling the Universal Service Obligation highlighted as a goal in NTP 1999. Through out these six years the government continued to accumulate USO levy in a lapsable USO Fund at the cost of low telecom penetration in the country which has caused irretrievable economic loss to the country.

It is public knowledge in the telecom and broadcasting industry that rural markets in India hold lucrative potential[314]. Almost in line with the USO fiasco was the delay in the notification of the Broadband Policy 2004. However, DoT does not permit two way VSAT communications via satellite admittedly the most effective method for accelerating rural telephony, citing 'national security concerns' as the reason for rejecting the demand for 'open skies' by the industry. The fact is that presently VSAT operators function under adverse regulatory conditions, including prohibition to access transponders on foreign satellites. VSAT operators have time and again asked the TRAI for a proper regulatory framework which would enable them significant cost savings which they could pass on to the consumer. They have repeated their demand for 'open sky' to ensure parity with ISP and broadcasters who are permitted to use more advanced foreign satellites through their own negotiations and business terms. Further cost saving/value addition can accrue by

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[312] Federation of Indian Chambers of Commerce & Industry, New Delhi

[313] The Economic Times, New Delhi, www.economictimes.com, citing Mr. Sunil Mittal, CMD Bharti Telecom Ltd. as saying "There is a scope of about 30% cut at present. License fee at 15%, 5% wireless charges, nearly 10% ADC make it 30% besides service tax of 10%. We are hopeful that simplification and rationalization in tax structure will take place", interview dated 29th December 2004, (accessed on 29th December 2004)

[314]

relaxing and/or completely lifting artificial limitations on technical aspects of operations, such as maximum throughput and minimum satellite dishes, particularly as newer satellites are being launched by foreign countries which have an increased throughput capacity. However, although national security considerations as the reason for rejecting open skies for VSAT operators may be valid, the central government must find a balance between these concerns and the need to quickly reach rural and remote areas of the country.

Consequently, at present VSAT services which offer the most cost efficient and versatile connectivity are not deployed in remote areas. It is submitted that it is critical that 'open sky' be permitted particularly because the countrywide footprint achieved with a single satellite is arguably the only efficient way to bridge the digital divide in India. Additionally satellite technology is well suited for back up connectivity as it provides 99.99% reliability and is not prone to power outages, cut lines, bad weather and other such vagaries. Thirdly, satellite connectivity is advantageous for broadcasting, multi casting the same information to several parties, disaster management, tele-medicine, tele-education, direct-to-home broadcasting, commercial applications, with new applications methods emerging almost on a daily basis. Therefore satellite connectivity through VSAT technology for effective telecom infrastructure roll out is critical. Presently there is an installed capacity of only 33000 VSATs in India, pointing clearly to the fact that there exists significant room for growth and an opportunity to propel growth of broadband using this medium[315].

6. ACCEPT SPECTRUM POLICY RECOMMENDATIONS

The central government must accept and notify the Spectrum Policy Recommendations[316]made by TRAI. The recommendations are based on Government's objective of achieving a target of 200 million mobile phones by 2007. The TRAI anticipates that spectrum availability will be a "major bottleneck beyond 2007 impacting quality of service in high service areas" which is bound to adversely impact achievement of the said target. It is stated that even the present level of spectrum allowed to mobile operators is much below international average. The TRAI has made several

[315] VSAT Services Association of India, March 2004.
[316] TRAI press release 43/2005 www.trai.gov.in

recommendations for a strategy to ensure availability of adequate spectrum to operators to enable them to engage in long term spectrum efficient planning, reduction of spectrum charges to 4% AGR from the present rate of 6% AGR in order to reduce input cost of telecom services so as to increase coverage in semi-urban and rural areas and ensuring roll out of 3G services. TRAI has also recommended change of procedures for allocation, technology neutral roll out, urgent review of current spectrum policy.

7. SIMPLIFY PROCEDURES FOR GRANT OF LICENSES AND OTHER PERMISSIONS

Other issues pertaining to the right of way, delay in obtaining licenses/clearances from the Wireless Planning & Coordination Wing, inherent difficulties in project financing and the inexplicable delay in announcing the broadband policy have already been discussed in detail, hence not repeated in the interest of brevity[317].

8. TRAI MUST BE FINANCIALLY INDEPENDENT

Second, TRAI has recommended the Government to allow it to have a certain percentage of annual license fee collected from telecom service providers and cable operators to defray its own costs, instead of being financed through government grants, as is the current practice. "The revenue base of the telecom service providers is about Rs.55,000 crore (about US$ 1,260, 000,000) and those of the cable service providers is about Rs.15,000 crore (about US$. 344,000,000). If permitted an annual share of 0.05 per cent on this revenue base, TRAI will be able to meet its recurring expenditure and also have a provision for capital expenditure. This will make TRAI independent of Government funding"[318].

9. OFFICE OF OMBUDSMAN FOR TELECOM AND BROADCASTING INDUSTRY

Central government should establish an Office of Ombudsman for the communications industry, including telecommunications and broadcasting, to ensure better protection of subscriber interest as is the practice in the insurance and banking sectors[319] in India.

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[317] Refer to pages 44-50 and 65 -70 above.

[318] TRAI, Press Release no.73/2004 dated 4th November 2004 relating to "Funding of TRAI" www.trai.gov.in .

[319] Ombudsman, supra note 103 at 35

"The telecommunication has seen phenomenal growth in the recent past both in terms of number of operators and also increases in subscriber base. With the growth in number of subscribers, consumer

TRAI Recommendation to this effect submitted on 10th August 2004 is pending consideration in the Department of Telecommunications. The recommendation is particularly important because TRAI discharges a dual role as telecom and broadcasting regulator[320].

10. TRAI MUST FUNCTION AS AN EFFECTIVE ANTI TRUST REGULATOR

The recent hike in the ceiling for foreign direct investment in the sector by the Government has been a long awaited measure. The new limit of 74% FDI, *albeit,* with some provisos is expected to drive a second round of consolidation in line with global trend of just 4-5 major service providers. It may be recalled that in the first round the number of operators in India was reduced from 23 to the current 10 including the incumbents BSNL and MTNL. The enhanced FDI limit will also encourage entry of telecom companies from Japan, South Korea, Europe and Russia and enable domestic companies raise funds necessary to increase implement programs to expand the total subscriber base from the present 70 million to 250 million by 2007.[321] In this context we may recall the lesson learnt from the effort made by the US FCC under the stewardship of the former Chairman Mr. Michael Powell to remove safeguards allowing for consolidation in media industry.[322]

11. SATELLITE COMMUNICATIONS AND COMMERCIALIZING SPACE INDUSTRY

India must address the issue of establishing a commercial satellite industry, particularly for telecom and broadcasting satellites to cater to industry demands. This must be seen as an urgent agenda given that at the present time India is renting about 80 transponders from foreign satellite. There is, therefore, scope for growth to feed the domestic telecom and broadcasting industry as also to exploit demand from foreign users. In 2002 for the

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complaints also increase. The Authority has witnessed a spurt in the number of complaints being lodged by the consumers on various problems. Though the TRAI Act does not explicitly fix the responsibility to redress consumer grievances on TRAI, large number of complaints are being received by the Authority daily. The Authority was therefore, of the view that there is a need to establish an internal mechanism like in other sectors, such as insurance and banking to deal with individual consumer grievances. The consumer organizations and NGOs with whom the Authority holds interactive meetings for formulation of its policies and programmes were also of the view that there should be an independent agency to look after consumer complaints in the telecommunication sector."

[320] TRAI as broadcasting regulator, supra note 216 at 70.

[321] The Financial Express, "Telecom FDI hike to trigger fresh M & A", http://financialexpress.com ,Bureau Report dated 3rd February 2005 (accessed on 3rd February 2005)

[322] Refer to pages 84 to 93 above.

first time the Central Government issued to M/s Agrani Satellite Services Limited license to own a private satellite for which was expected to commence commercial operations in the first quarter of 2003. However, this venture was failed to take off[323] . It is therefore important that India put in place a comprehensive satellite communications policy and attendant statutes and licensing regime to facilitate the commercialization of satellite industry in India[324].

10. EVALUATE CRTC AND FCC EXPERIENCES

The Canadian and U.S. examples inform us that even countries with highly developed and deregulated telecom and broadcasting industries are facing difficulties in responding appropriately and adequately to challenges posed the convergence technologies. A change of statute is under serious contemplation as Canada and U.S. find that existing laws are completely out of sync with present requirements and have become major impediments to effective regulation required to ensure the maximum benefits of commercialization to industry and consumers alike. Thus the CRTC and FCC are trying to reinvent themselves to be competent for their task. In this context the internal restructuring proposed by TRAI is urgent because it is critical to ensure that it can function independently and fearlessly in dealing with similar issues that are currently challenging CRTC and FCC, described already in the preceding chapter. TRAI is in a

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[323] Hindu Business Line, *'Pact signed for India's first private satellite'*, www.blonnet.com, 20th March 2002 (accessed on 20th September 2004)

The first Indian private satellite moved closer to reality with the satellite contract and shareholders' agreement between Agrani Satellite services Ltd (ASSL), Alcatel Space industries (ASI) and Arianespace being signed here on Wednesday.

Accordingly, an ASI-built satellite having 38 transponders (12 C-band transponders each for India and Asia coverage beams plus 14 Ku-band transponders, for one India beam and a steerable beam over Middle East, South-East Asia or Europe) will be placed in orbit by an Ariane-5 launch vehicle, in the fourth quarter of 2003. The three tonne satellite with a 14-year lifespan, originally ordered by Shinawatra of Thailand and bought by ASSL when the former opted out, will undergo change to its antenna coverage and frequency plans to satisfy the specific needs of ASSL. By acquiring an already ordered satellite, ASSL has cut the time taken for revenue generation of the Rs 1,150-crore project cost (debt-equity ratio of 1.4:1), Rs 950 crore is the price of the turnkey contract to put a satellite in orbit.

The two French companies have taken a 13 per cent stake in ASSL's equity for $20 million, ASI contributing $15 million and Arianespace the balance. This will be paid in cash, separate from the cost of satellite and its launch. ASC Enterprises Ltd (ASCEL), promoted by Mr. Subhash Chandra, Chairman, Essel group and Zee Telefilms Ltd (ZTL), holds the remaining portion of ASSL's equity.

Through it is FIs' policy to insist that promoter's stake dose not fall below 51 per cent, Mr. Chandra said at a press briefing, they should be amenable to new partner entering if that be the wish of ASEL, ASI and Arianespace. However, when asked if New ICO-in which he holds a minority equity stake was posied to use the ASSL satellite for its telecom services, Mr. Chandra maintained the satellite system were different. ZTL, which is project to occupy 15-16 per cent of the satellite's C-band space and a very small amount of Ku-band for its cable system, will enjoy a "better rate," Mr. Chandra said. ZTL dose not hold equity in ASSL. It currently rents two transponders on Asiasat, each capable of beaming 10 channels, costing $5 million per annum. While informal talks have been held with potential users, active marketing of transponders will commence form May Alcatel has offered to provide ground support for ASSL's clients.

"There is a shortage of transponders", Prof U.R. Rao, Chairman, Prasar Bharati Board and former Chairman, Space Commission, said. Though the Broadcast Policy is not yet approved, it is believed to have mooted preference for Indian satellite in transponder hire. At present, the country is renting about 80 transponder, Mr. Chandra said. ASSL's satellite ground station will have to be located in India "at some stage." On future plans, he said, ASSL will look at a second satellite once the first one is fully utilised."

[324] Refer to pages 95-96 above.

unique position to be draw upon lessons learned from experiences of the Canadian and American Regulators.

11. ACTION PLAN FOR TRANSITION TO THE AGE OF CONVERGENCE TECHNOLOGIES

It is urgent to evolve a procedure to handle the transition from the present 'telegraph' to the future 'satellite communications' status. A plan of action to enable India quickly, efficiently and successfully leap into the convergence age needs urgent attention. Perhaps a task force drawn not just from bureaucracy but also from industry and academics specializing in telecom could be asked to help prepare a blue print. Inevitably an important item on their agenda must be the legislation of a new appropriate and comprehensive satellite communications bill or convergence communications bill [325] to replace all other statutes. The financial and taxation implications of whether to classify internet telephony as 'telecommunications' or 'broadcasting' as proposed in the unified licensing regime will have to be addressed. A host of other critical issues, particularly in respect to 'content in broadcasting'[326] , privacy and national security issues will emerge as traditional boundaries between telecommunications and broadcasting vanish. The central government must have the will and purpose to start dealing with these issues on an immediate basis. A basic requirement for this to happen is a financially independent and autonomous regulator.

12. BRIDGING DIGITAL DIVIDE VITAL IN INDIA

In conclusion it is not out of place to mention that the spread of ICT and the ending of the digital divide around the globe is also one of its objectives of the UN Millennium Development Goals. It is acknowledged internationally that high level of ICT is correlated to a high level of GDP on account of increased productivity. Moreover, for obvious reasons ICT has the greatest beneficial impact on the unorganized sector that includes SME & SOHO[327]. The World Telecommunications Development 2003[328] states that India has 7.10 telephone lines per 100 inhabitants in a population of 1056.89 million. Clearly the potential for growth is staggering yet the fatally slow pace of reform coupled

[325] A new Draft Convergence Bill was introduced in Parliament in 2000. The Bill has since lapsed.
[326] Department of Telecommunications, Notification No.SO 44(E) dated 9th January 2004 relating to broadcasting and cable services to be telecommunications service, www.dot.gov.in .
[327] CII, "Vision", supra note 23 at 16.
[328] WTDR 2003, supra note 1 at 1.

with bureaucratic red tape that passes for controlled progress makes India the least attractive investment destination.

Telecommunication is the key infrastructure required to 'connect' every part of the vast country and bridge the digital divide for every economic and trade activity and for overall development. For India satellite communications is an imperative tool with which to tackle illiteracy, poverty and low health indicators. A competitive telecommunications market reduces communications costs for industry and individual users while new investments in this sector will stimulate development of electronic commerce to spur growth in almost all services sectors. The former Director-General WTO Supachai Panitchpakdi wrote in his foreward to World Trade Report 2004 [329] that "Governments cannot hope to reap the real benefits of open trade if they fail to secure macroeconomic stability, supportive infrastructure, properly functioning domestic markets and sound institutions. These things go hand in hand. Failure or neglect in one area spells disappointment in others"

[329] Supachai Panichpakdi, Director-General WTO, forward to World Trade Report 2004, "Impact of domestic policies on Trade", www.wto.org/english/news, News 2004 press release/385, (accessed on 3rd February 2005).

ANNEXURES

ANNEXURE I

NEW TELECOM POLICY 1999

1.1 Importance of Telecommunications

The Government of India (Government) recognizes that provision of world class telecommunications infrastructure and information is the key to rapid economic and social development of the country. It is critical not only for the development of the Information Technology industry, but also has widespread ramifications on the entire economy of the country. It is also anticipated that going forward, a major part of the GDP of the country would be contributed by this sector. Accordingly, it is of vital importance to the country that there be a comprehensive and forward looking telecommunications policy which creates an enabling framework for development of this industry.

1.2 NTP 1994 - objectives and achievements

In 1994, the Government announced the National Telecom Policy which defined certain important objectives, including availability of telephone on demand, provision of world class services at reasonable prices, ensuring India's emergence as major manufacturing / export base of telecom equipment and universal availability of basic telecom services to all villages. It also announced a series of specific targets to be achieved by 1997. As against the NTP 1994 target of provision of 1 PCO per 500 urban population and coverage of all 6,000,00 villages, DoT has achieved an urban PCO penetration of 1 PCO per 522 and has been able to provide telephone coverage to only 3,010,01 villages. As regards provision of total telephone lines in the country, DoT has provided 8.73 million telephone lines against the eighth plan target of 7.5 million lines.

NTP 1994 also recognized that the required resources for achieving these targets would not be available only out of Government sources and concluded that private investment and involvement of the private sector was required to bridge the resource gap. The Government invited private sector participation in a phased manner from the early nineties, initially for value added services such as Paging Services and Cellular Mobile Telephone Services (CMTS) and thereafter for Fixed Telephone Services (FTS). After a competitive bidding process, licenses were awarded to 8 CMTS operators in the four metros, 14 CMTS operators in 18 state circles, 6 BTS operators in 6 state circles and to paging operators in 27 cities and 18 state circles. VSAT services were liberalized for providing data services to closed user groups. Licenses were issued to 14 operators in the private sector out of which only nine licensees are operational. The Government has recently announced the policy for Internet Service Provision (ISP) by private operators and has commenced licensing of the same. The Government has also announced opening up of Global Mobile Personal Communications by Satellite (GMPCS) and has issued one provisional license. Issue of licenses to other prospective GMPCS operators is under consideration.

The Government recognizes that the result of the privatization has so far not been entirely

satisfactory. While there has been a rapid rollout of cellular mobile networks in the metros and states with currently over 1 million subscribers, most of the projects today are facing problems. The main reason, according to the cellular and basic operators, has been the fact that the actual revenues realized by these projects have been far short of the projections and the operators are unable to arrange financing for their projects and therefore complete their projects. Basic telecom services by private operators have only just commenced in a limited way in two of the six circles where licenses were awarded. As a result, some of the targets as envisaged in the objectives of the NTP 1994 have remained unfulfilled. The private sector entry has been slower than what was envisaged in the NTP 1994.

The government views the above developments with concern as it would adversely affect the further development of the sector and recognizes the need to take a fresh look at the policy framework for this sector.

1.3 Need for a new telecom policy

In addition to some of the objectives of NTP 1994 not being fulfilled, there have also been far reaching developments in the recent past in the telecom, IT, consumer electronics and media industries world-wide. Convergence of both markets and technologies is a reality that is forcing realignment of the industry. At one level, telephone and broadcasting industries are entering each other's markets, while at another level; technology is blurring the difference between different conduit systems such as wire line and wireless. As in the case of most countries, separate licenses have been issued in our country for basic, cellular, ISP, satellite and cable TV operators each with separate industry structure, terms of entry and varying requirement to create infrastructure. However this convergence now allows operators to use their facilities to deliver some services reserved for other operators, necessitating a relook into the existing policy framework. The new telecom policy framework is also required to facilitate India's vision of becoming an IT superpower and develop a world class telecom infrastructure in the country.

2.0 Objectives and targets of the New Telecom Policy 1999

The objectives of the NTP 1999 are as under:

- Access to telecommunications is of utmost importance for achievement of the country's social and economic goals. Availability of affordable and effective communications for the citizens is at the core of the vision and goal of the telecom policy.
- Strive to provide a balance between the provision of universal service to all uncovered areas, including the rural areas, and the provision of high-level services capable of meeting the needs of the country's economy;
- Encourage development of telecommunication facilities in remote, hilly and tribal areas of the country;
- Create a modern and efficient telecommunications infrastructure taking into account the convergence of IT, media, telecom and consumer electronics and thereby propel India into becoming an IT superpower;
- Convert Pecos, wherever justified, into Public Teleinformation centers having multimedia capability like ISDN services, remote database access, government and community information systems etc.

- Transform in a time bound manner, the telecommunications sector to a greater competitive environment in both urban and rural areas providing equal opportunities and level playing field for all players;
- Strengthen research and development efforts in the country and provide an impetus to build world-class manufacturing capabilities
- Achieve efficiency and transparency in spectrum management
- Protect the defense & security interests of the country
- Enable Indian Telecom Companies to become truly global players.

In line with the above objectives, the specific targets that the NTP 1999 seeks to achieve would be:

- Make available telephone on demand by the year 2002 and sustain it thereafter so as to achieve a teledensity of 7 by the year 2005 and 15 by the year 2010
- Encourage development of telecom in rural areas making it more affordable by suitable tariff structure and making rural communication mandatory for all fixed service providers
- Increase rural teledensity from the current level of 0.4 to 4 by the year 2010 and provide reliable transmission media in all rural areas
- Achieve telecom coverage of all villages in the country and provide reliable media to all exchanges by the year 2002
- Provide Internet access to all district head quarters by the year 2000
- Provide high speed data and multimedia capability using technologies including ISDN to all towns with a population greater than 200000 by the year 2002

3.0 New Policy Framework

The New Policy Framework must focus on creating an environment, which enables continued attraction of investment in the sector and allows creation of communication infrastructure by leveraging on technological development. Towards this end, the New Policy Framework would look at the telecom service sector as follows –

- Cellular Mobile Service Providers, Fixed Service Providers and Cable Service Providers, collectively referred to as 'Access Providers'
- Radio Paging Service Providers
- Public Mobile Radio Trunking Service Providers
- National Long Distance Operators
- International Long Distance Operators
- Other Service Providers
- Global Mobile Personal Communication by Satellite (GMPCS) Service Providers
- V-SAT based Service Providers

3.1 Access Providers

3.1.1 Cellular Mobile Service Providers

The Cellular Mobile Service Providers (CMSP) shall be permitted to provide mobile telephony services including permission to carry its own long distance traffic within their service area without seeking an additional license. Direct interconnectivity between licensed CMSPs and any other type of service provider (including another CMSP) in their area of

operation including sharing of infrastructure with any other type of service provider shall be permitted. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up national long distance. The CMSP shall be allowed to directly interconnect with the VSNL after opening of national long distance from January 1, 2000. The CMSP shall be free to provide, in its service area of operation, all types of mobile services including voice and non-voice messages, data services and PCOs utilizing any type of network equipment, including circuit and/or packet switches, that meet the relevant International Telecommunication Union (ITU) / Telecommunication Engineering Center (TEC) standards.

CMSP would be granted separate license, for each service area. Licenses would be awarded for an initial period of twenty years and would be extendible by additional periods of ten years thereafter. For this purpose, service areas would be categorized into the four metro circles and Telecom circles as per the existing policy. CMSP would be eligible to obtain licenses for any number of service areas.

Availability of adequate frequency spectrum is essential not only for providing optimal bandwidth to every operator but also for entry of additional operators. Based on the immediately available frequency spectrum band, apart from the two private operators already licensed, DOT / MTNL would be licensed to be the third operator in each service area in case they want to enter, in a time bound manner. In order to ensure level playing field between different service providers in similar situations, license fee would be payable by DoT also. However, as DoT is the national service provider having immense rural and social obligations, the Government will reimburse full license fee to the DoT.

It is proposed to review the spectrum utilization from time to time keeping in view the emerging scenario of spectrum availability, optimal use of spectrum, requirements of market, competition and other interest of public. The entry of more operators in a service area shall be based on the recommendation of the TRAI who will review this as required and no later than every two years.

CMSP operators would be required to pay a one time entry fee. The basis for determining the entry fee and the basis for selection of additional operators would be recommended by the TRAI. Apart from the one time entry fee, CMSP operators would also be required to pay license fee based on a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share arrangement for different service areas would be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

3.1.2 Fixed Service Providers

The Fixed Service Providers (FSP) shall be freely permitted to establish 'last mile' linkages to provide fixed services and carry long distance traffic within their service area without seeking an additional license. Direct interconnectivity between FSP and any other type of service provider (including another FSP) in their area of operation and sharing of infrastructure with any other type of service provider shall be permitted. Interconnectivity between service providers in different service areas shall be reviewed in consultation with

TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up of national long distance. The FSP shall be allowed to directly interconnect with the VSNL after the opening up of national long distance from January 1, 2000. The FSP may also utilize last mile linkages or transmission links within its service area made available by other service providers. The FSP shall be free to provide, in his service area of operation, all types of fixed services including voice and non-voice messages and data services, utilizing any type of network equipment, including circuit and/or packet switches that meet the relevant International Telecommunication Union (ITU) / Telecommunication Engineering Center (TEC) standards.

The FSP shall be granted separate license, on a non-exclusive basis, for each service area of operation. Licenses would be awarded for an initial period of twenty years which shall be extended by additional periods of ten years thereafter. The FSP shall be eligible to obtain licenses for any number of service areas.

While market forces will ultimately determine the number of fixed service providers, during transition, number of entrants has to be carefully decided to eliminate non-serious players and allow new entrants to establish themselves. Therefore, the option of entry of multiple operators for a period of five years for the service areas where no licenses have been issued is adopted. The number of players and their mode of selection will be recommended by TRAI in a time-bound manner.

The FSP licensees would be required to pay a one time entry fee. All FSP licensees shall pay license fee in the form of a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share and basis for selection of new operators for different service areas of operation would be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

As in the case for cellular, for WLL also, availability of appropriate frequency spectrum as required is essential not only for providing optimal bandwidth to every operator but also for entry of additional operators. It is proposed to review the spectrum utilization from time to time keeping in view the emerging scenario of spectrum availability, optimal use of spectrum, requirements of market, competition and other interest of public.

The WLL frequency shall be awarded to the FSP requiring the same, based on the payment of an additional one time fee over and above the FSP entry fee. The basis for determining the entry fee and the basis for assigning WLL frequency shall be recommended by the TRAI. All FSP operators utilizing WLL shall pay a license fee in the form of a revenue share for spectrum utilization. This percentage of revenue share shall be over and above the percentage payable for the FSP license. It is proposed that the appropriate level of entry fee and percentage of revenue share for WLL for different service areas of operation will be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

3.1.3 Cable Service Providers

Under the provisions of the Cable Regulation Act, 1995, Cable Service Providers (CSP) shall continue to be freely permitted to provide 'last mile' linkages and switched services within

their service areas of operation and operate media services, which are essentially one-way, entertainment related services. Direct interconnectivity between CSPs and any other type of service provider in their area of operation and sharing of infrastructure with any other type of service provider shall be permitted. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up national long distance. In view of convergence, it is highly likely that two-way communication (including voice, data and information services) through cable network would emerge in a significant way in future. Offering of these services through the cable network would tantamount to providing fixed services. Accordingly, in case the above two-way communication services are to be provided by Cusps utilizing their network, they would also be required to obtain an FSP license and be bound by the license conditions of the FSP, with a view to ensure level playing field.

3.2 Internet Telephony

Internet telephony shall not be permitted at this stage. However, Government will continue to monitor the technological innovations and their impact on national development and review this issue at an appropriate time.

3.3 Radio Paging Service Providers

The Radio Paging Service Providers (RPSP) shall be permitted to provide paging services within their service area of operation. Direct interconnectivity between licensed RPSPs and any other type of service provider in their area of operation including sharing of infrastructure shall be permitted. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced by August 15, 1999 as a part of the structure for opening up of national long distance.

The RPSP shall be granted separate license, on a non-exclusive basis, for each service area of operation. Licenses would be awarded for an initial period of twenty years and will be extended by additional periods of ten years thereafter. For this purpose, the service areas would be categorized as per the existing structure. The RPSP shall be eligible to obtain licenses for any number of service areas.

Availability of adequate radio frequency spectrum is essential not only for providing optimal bandwidth to every operator but also for entry of additional operators. It is proposed to review the spectrum utilization from time to time keeping in view the emerging scenario of spectrum availability, optimal use of spectrum, requirements of market, competition and other interest of public. The entry of more operators in a service area shall be based on the recommendation of the TRAI who would review this as required and no later than every two years.

The radio paging licensees shall pay a one time entry fee. The basis for determining the entry fee and the basis for selection of additional operators will be recommended by the TRAI. All radio paging licensees shall pay license fee as a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share for different service areas of operation will be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy. Further, TRAI may also examine and recommend the

revenue sharing arrangements between RPSP and other access providers, subject to technical feasibility.

3.4 Public Mobile Radio Trunking Service Providers

The Public Mobile Radio Trunking Service Providers (PMRTSP) shall be permitted to provide mobile radio trunking services within their service area of operation. Direct interconnectivity between licensed PMRTSP's and any other type of service provider in their area of operation shall be permitted after examining the legal implications in view of the CMSP licenses

The PMRTSP shall be granted separate license, on a non-exclusive basis, for each service area of operation. Licenses would be awarded for an initial period of twenty years and will be extended by additional periods of ten years thereafter. For this purpose, the service areas would be categorized as per the existing structure. The PMRTSP shall be eligible to obtain licenses for any number of service areas.

PMRTSP licensees would be required to pay a one time entry fee. The basis for determining the entry fee and the basis for selection of additional operators will be recommended by the TRAI. Apart from the one time entry fee, PMRTSP licensees would also be required to pay license fee based on a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share arrangement for different service areas would be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

3.5 National Long Distance Operator

National long distance service beyond service area to the private operators will be opened for competition with effect from January 1, 2000. To promote setting up long distance bandwidth capacity in the country, provide a choice to consumers and promote competition, all NLDOs should be able to access subscribers. With a view to achieve the above, all access providers shall be a mandatorily required to provide interconnection to the Nodes resulting in choice for subscribers to make long distance calls through any operator. For this purpose, the terms and conditions and other modalities would be worked out in consultation with TRAI and the same will be announced by August 15, 1999. The terms and conditions would also specify the number of operators, license conditions on revenue sharing basis and other related issues.

Usage of the existing backbone network of public and private power transmission companies / Railways / GAIL, ONGC etc. shall be allowed immediately for national long distance data communication and from January 1, 2000 for national long distance voice communications. Resale would be permitted for domestic telephony, announcement for the modalities thereof to be announced along with the opening up of national long distance by August 15, 1999. Resale on international long distance will not be permitted till the year 2004.

3.6 International Long Distance Services

The subject of opening up of international telephony service to competition will be reviewed by the year 2004.

3.7 Other Service Providers

For applications like tele-banking, tele-medicine, tele-education, tele-trading, e-commerce, other service providers will be allowed to operate by using infrastructure provided by various access providers. No license fee will be charged but registration for specific services being offered will be required. These service providers will not infringe on the jurisdiction of other access providers and they will not provide switched telephony.

3.8 Global Mobile Personal Communication Services

The Government has opened up the GMPCS market in India and has issued a provisional license. The terms of the final license would need to be finalized in consultation with TRAI by June 30, 1999. All the calls originating or terminating in India shall pass through VSNL gateway or in case of bypass, it should be possible to monitor these calls in the Indian gateways. VSNL is also to be compensated in case gateway is bypassed.

The GMPCS operators shall be free to provide voice and non-voice messages, data service and information services utilizing any type of network equipment, including circuit and/or packet switches that meet the relevant International Telecommunication Union (ITU) / Telecommunication Engineering Center (TEC) standards. However, the licenses be awarded after the proposals are scrutinized from the security angle by the Government.

The appropriate entry fee/revenue sharing structure would be recommended by TRAI, keeping in view the objectives of the New Telecom Policy.

3.9 SATCOM Policy

The SATCOM Policy shall provide for users to avail of transponder capacity from both domestic / foreign satellites. However, the same has to be in consultation with the Department of Space.

Under the existing ISP policy, international long distance communication for data has been opened up. The gateways for this purpose shall be allowed to use SATCOM.

It has also been decided that Ku frequency band shall be allowed to be used for communication purposes.

3.9.1 VSAT Service Providers

The VSAT Service Providers shall be granted separate license, on a non-exclusive basis for an initial period of twenty years and will be extended by additional periods of ten years thereafter. Interconnectivity between service providers in different service areas shall be reviewed in consultation with TRAI and the same would be announced as a part of the structure for opening up national long distance by August 15, 1999.

The VSAT service providers shall be granted separate license, on a non-exclusive basis. Licenses would be awarded for an initial period of twenty years and will be extended by

additional periods of ten years thereafter.

VSAT licensees would be required to pay a one time entry fee. The basis for determining the entry fee and the basis for selection of additional operators will be recommended by the TRAI. Apart from the one time entry fee, VSAT licensees would also be required to pay license fee based on a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue share arrangement would be recommended by TRAI in a time-bound manner, keeping in view the objectives of the New Telecom Policy.

3.10 Electronic Commerce

On line Electronic Commerce will be encouraged so that information can be passed seamlessly. The requirement to develop adequate bandwidth of the order of 10 Gb on national routes and even terrabits on certain congested important national routes will be immediately addressed to so that growth of IT as well as electronic commerce will not be hampered.

3.11 Resolution of problems of existing operators

The New Policy Framework which seeks to significantly redefine the competitive nature of industry would be applicable to new licensees.

There are, however, multiple licenses that have been issued by the Government for cellular mobile services, basic services, radio paging services, internet services etc. It is the Government's intention to satisfactorily resolve the problems being faced by existing operators in a manner which is consistent with their contractual obligations and is legally tenable.

4.0Restructuring of DoT

World-wide, the incumbent, usually the Government owned operator plays a major role in the development of the telecom sector. In India, DoT is responsible for the impressive growth in number of lines from 58.1 lakh on April 1, 1992 to 191 lakh in December 1998, showing a CAGR of 20%. DoT is expected to continue to play an important, and indeed, dominant role in the development of the sector.

Currently, the licensing, policy making and the service provision functions are under a single authority. The Government has decided to separate the policy and licensing functions of DoT from the service provision functions as a precursor to corporatisation. The corporatization of DoT shall be done keeping in mind the interests of all stakeholders by the year 2001.

All the future relationship (competition, resource raising etc.) of MTNL / VSNL with the corporatized DoT would be based on best commercial principles.

The synergy of MTNL, VSNL and the coporatized DoT would be utilized to open up new vistas for operations in other countries.

5.0 Spectrum Management

With the proliferation of new technologies and the growing demand for telecommunication services, the demand on spectrum has increased manifold. It is, therefore, essential that spectrum be utilized efficiently, economically, rationally and optimally. There is a need for a transparent process of allocation of frequency spectrum for use by a service and making it available to various users under specific conditions.

The National Frequency Allocation Plan (NFAP) was last established in 1981, and has been modified from time to time since. With the proliferation of new technologies it is essential to revise the NFAP in its entirety so that it could become the basis for development, manufacturing and spectrum utilization activities in the country amongst all users. The NFAP is presently under review and the revised NFAP-2000 would be made public by the end of 1999, detailing information regarding allocation of frequency bands for various services, without including security information. NFAP shall be reviewed no later than every two years and shall be in line with radio regulations of International Telecommunication Union.

Relocation of existing Spectrum and Compensation:

- Considering the growing need of spectrum for communication services, there is a need to make adequate spectrum available
- Appropriate frequency bands have historically been assigned to defense & others and efforts would be made towards relocating them so as to have optimal utilization of spectrum. Compensation for relocation may be provided out of spectrum fee and revenue share levied by Government.
- There is a need to review the spectrum allocations in a planned manner so that required frequency bands are available to the service providers.

There is a need to have a transparent process of allocation of frequency spectrum which is effective and efficient. This would be examined further in the light of ITU guidelines. For the present, the following course of action shall be adopted.

- Spectrum usage fee shall be charged.
- Setting up an empowered Inter-Ministerial Group to be called as Wireless Planning Coordination Committee (WPCC) as part of the Ministry of Communications for periodical review of spectrum availability and broad allocation policy.
- Massive computerization in the WPC Wing will be started during the next three months' time so as to achieve the objective of making all operations completely computerized by the end of year 2000.

6.0 Universal Service obligation

The Government is committed to provide access to all people for basic telecom services at affordable and reasonable prices. The Government seeks to achieve the following universal service objectives:

- Provide voice and low speed data service to the balance 2.9 lac uncovered villages in the country by the year 2002
- Achieve Internet access to all district head quarters by the year 2000

- Achieve telephone on demand in urban and rural areas by 2002

The resources for meeting the USO would be raised through a 'universal access levy' which would be a percentage of the revenue earned by all the operators under various licenses. The percentage of revenue share towards universal access levy would be decided by the Government in consultation with TRAI. The implementation of the USO obligation for rural / remote areas would be undertaken by all fixed service providers who shall be reimbursed from the funds from the universal access levy. Other service providers shall also be encouraged to participate in USO provision subject to technical feasibility and shall be reimbursed from the funds from the universal access levy.

7.0 Role of Regulator

The Telecom Regulatory Authority of India (TRAI) was formed in January 1997 with a view to provide an effective regulatory framework and adequate safeguards to ensure fair competition and protection of consumer interests. The Government is committed to a strong and independent regulator with comprehensive powers and clear authority to effectively perform its functions.

Towards this objective the following approach will be adopted:

- Section 13 of the TRAI Act gives adequate powers to TRAI to issue directions to service providers. Further, under Section 14 of the Act, the TRAI has full adjudicatory powers to resolve disputes between service providers. To ensure level playing fields, it will be clarified that the TRAI has the powers to issue directions under Section 13 to Government (in its role as service provider) and further to adjudicate under Section 14 of the Act, all disputes arising between Government (in its role as service provider) and any other service provider.
- TRAI will be assigned the arbitration function for resolution of disputes between Government (in its role as licensor) and any licensee.
- The Government will invariably seek TRAI's recommendations on the number and timing of new licences before taking decision on issue of new licenses in future.
- The functions of licensor and policy maker would continue to be discharged by Government in its sovereign capacity. In respect of functions where TRAI has been assigned a recommendatory role, it would not be statutorily mandatory for Government to seek TRAI's recommendations.

8.0 Other Issues

8.1 Standardisation

To enable the establishment of an integrated telecommunication network, common standards with regard to equipment and services would be specified by the Telecom Engineering Centre (TEC). TEC would also continue to grant interconnect and interface approvals for various service providers.

8.2 Telecom equipment manufacture

With a view to promoting indigenous telecom equipment manufacture for both domestic use and export, the Government would provide the necessary support and encouragement to the sector, including suitable incentives to the service providers utilizing indigenous equipment.

8.3 Human resource development and training

Human resources are considered more vital than physical resources. Emphasis would be placed on the development of human resources for all fields related to telecommunications and the dispersal of this expertise to the related fields. Such expertise shall also be made available to other countries.

8.4 Telecom research and development

Recognising that telecommunications is a prime pre-requisite for the development of other technologies, telecommunications research and development (R&D) activities would be encouraged. Government would take steps to ensure that the industry invests adequately in R&D for service provision as well as manufacturing. Indigenous R&D would be actively encouraged with a view to accelerate local industrial growth and hasten transfer of technology. Premier technical institutions would be encouraged to undertake R&D activities on a contribution basis by the telecom service providers and manufacturers so as to develop multi-dimensional R&D activities in telecommunications and information technology.

8.5 Disaster management

International co-operation in the use of terrestrial and satellite telecommunications technologies in the prediction, monitoring and early warning of disasters, especially in the early dissemination of information would be encouraged. Financial commitment to disaster management telephony and the development of appropriate regulatory framework for unhindered use of trans-boundary telecommunications would be put in place.

8.6 Remote area telephony

Rural Telephony, areas of North East, Jammu & Kashmir and other hilly areas, tribal blocks, etc. may be identified as a special thrust areas for accelerated development of telecommunications. The Ministry of Defence shall be assigned a more active role in the development of telecommunications in such remote areas as are identified for accelerated development of telecommunications.

8.7 Export of Telecom equipment and services

Export of telecom equipment and services would be actively incentivised. Synergies among the various telecom players (manufacturers and service providers) would be exploited and used to provide integrated solutions for exports.

8.8 Right of way

Government recognises that expeditious approvals for right-of-way clearances to all service providers are critical for timely implementation of telecom networks. The Central / State

Government / Local bodies / Ministry of Surface Transport etc. shall take necessary steps to facilitate the same.

8.7 Export of Telecom equipment and services

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9.0 Changes in legislation

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The Indian telecommunications system continues to be governed by the provisions of the Indian Telegraph Act, 1885 (ITA 1885) and the Indian Wireless Act, 1933. Substantial changes have taken place in the telecommunications sector since 1992. ITA 1885 needs to be replaced with a more forward looking Act.

ANNEXURE II

Addendum to NTP-1999
Government of India
Ministry of Communications and Information Technology
Department of Telecommunications
Sanchar Bhawan, 20 Ashoka Road, New Delhi-110 001.
No.808-26/2003-VAS Dated the 11th Nov., 2003.

OFFICE MEMORANDUM

SUB: Addendum to the New Telecom Policy – 1999 (NTP-99)

Given the central aim of NTP-99 to ensure rapid expansion of teledensity; given the unprecedented expansion of telecom services that competition has brought about; given the steep reductions in tariffs that competition has ensured; given the fact that advances in technologies erase distinctions imposed by earlier licensing systems; given the fact that even more rapid advances in technologies are imminent; given the steep reduction in costs of providing telecom services; given the rapid convergence of tariffs for wireless services; given the fact that the provision of such services at the cheapest possible rates and by the most reliable mode is the sine qua non for India to consolidate its position as a leading hub of Communications systems, Information Technology, IT enabled services, and of establishing itself as a leader in new disciplines such as bioinformatics and biotechnology; given the recommendations of TRAI in this regard; Government, in the public interest in general and consumer interest in particular and for the proper conduct of telegraphs and telecommunications services, has decided that there shall also be the following categories of licences for telecommunication services:

i. Unified Licence for Telecommunication Services permitting Licensee to provide all telecommunication/ telegraph services covering various geographical areas using any technology;
ii. Licence for Unified Access (Basic and Cellular) Services permitting Licensee to provide Basic and /or Cellular Services using any technology in a defined service area.

(A. S. Verma)
Director (VAS-II)

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