Policy & Regulatory Training Modules

Reference to
LICENSING: AS A MARKET ENTRY

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Executive Summary

Telecommunication today is the most vital infrastructure and backbone of the socio-economic progress of most of countries. Governments across Asia and the Pacific region in particular are determined to reform or modernize the telecommunication infrastructure and applications by introducing privatization and competition.

In Hong Kong/China, the Government initiated the reformation of telecommunication sector by a pre-mature cancellation of license of the dominant operator – i.e., Cable & Wireless (HK) Ltd. in 1993. Thereafter, one of the major roles of the independent regulatory body (OFTA) is to ensure competition through exercise of licensing and its relevant enforcement power. As a result, there are hundreds of individual licensees in Hong Kong as of 2003.

In India, the Government started the process of liberalization in 1994 by announcing National Telecommunication Policy, although various value-added and cellular mobile services were privatized in 1992. An independent regulator (TRAI) was established in 1997 under a new law called Telecommunication Regulatory Authority of India Act. India has adopted a cautious and phased liberalization of various services in telecommunications, whose sector is now opened for competition by private industries. An important milestone in telecommunication reforms has been taken place through announcing the new telecommunication policy 1999, which aims at creating an investment environment to set up a world class telecommunication infrastructure, create a level playing field, strengthen regulator, attract private investment, cater for convergence and leverage technological advancement. Also, operational function of the Government - i.e., the Department of Telecommunication (DOT) - was finally split up in 2000, whilst the Convergence Bill is being drafted (2002) and to be expected enactment shortly.

This paper aims at examining various licensing issues as ways, in which regulators or policy-makers allow new operators to enter the liberalized or privatized telecommunication markets. Taking into account diversity of countries and cases, this intends to examine ways and differences being implemented by Hong Kong/China and India for the references to other countries facing similar circumstances.

Most Frequently Asked Questions & Answers

Q1. What is the prime objective of licensing?

The main objective of licensing is to allow new operators in the liberalized or privatized telecommunication markets in a non-discriminatory, proportionate and transparent manner, unless other conditions are required subject to each country's circumstances.

HONG KONG

OFTA (Hong Kong), appointed under the Telecommunication Ordinance as the statutory body, is responsible for regulating the telecommunication industry. Its major functions include among many others: e.g.,

- Carry out the economic and technical regulation of the telecommunications industry;
- Facilitate the interconnection of telecommunications networks, systems, installations and services and the shared use of facilities where appropriate;

- Promote economic efficiency in the provision of telecommunications networks, systems, installations, customer equipment and services;
- Promote competition in the provision of telecommunications networks, systems, installations, customer equipment ad services;
- Protect consumers' interests;
- *Grant licences as provided for under the Telecommunications Ordinance;*
- *Administer licence as provided for under the Telecommunications Ordinance and the licence conditions;*
- Investigate, and take appropriate action for, breaches of the Telecommunication Ordinance or licences;

The prime purpose of licensing in Hong Kong is in principle to avoid any unnecessary burdens for operators and regulators through minimum regulations: i.e., only control the use of public resource such as spectrum and numbers in an orderly and effective manner so that public interests like universal service and number portability are protected.

INDIA

The primary role of the policy makers and regulators is to accelerate the pace of telecommunication development and ensure consumer interest protected. In accordance with the Telecommunication Act (1997), the Telecommunication Regulatory Authority of India (TRAI) can play a role as an autonomous, quasi -Judicial, statutory authority with accountability to the Parliament through the Union Minister for communications before the establishment of TRAI. Its functions more details cover a wide spectrum and include such important items as: e.g.,

- recommendations in regard to the need and timing for the introduction of a new service provider;
- terms and conditions of a license and revocation of the licence, if necessary;
- dispute resolution;
- tariff setting ;
- protecting the interest of consumers;
- inspection of equipment used in the network;
- introduction of competition; and
- protection of consumer interest.

The paramount objective of licensing is to ensure that the customers are provided with good quality of services at reasonable prices. Licensing is a tool to regulate the operators and monitor their activities for public interest and to avoid any unfair trade practices by the operators. Licensing ensures that suitable measures are taken to protect and promote the interest of consumers and ensure fair competition in the sector. In India, the main objectives are as follows: e.g.,

- Access to telecommunications is of utmost importance for achievements of the Country's social and economic goals. To make available of affordable and effective communications for the citizens.
- Strive to provide 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 considering the vast areas and complexities of the geography of the Country.

- Create a modern and efficient telecommunication infrastructure taking into account the convergence of IT, media, telecommunication and consumer electronics and thereby propel India into becoming an IT superpower.
- Convert PCO's, wherever justified, into Public Teleinfo Centres having multimedia capability like ISDN services, remote database access, government and community information systems etc.
- Transform in a time bound manner, the telecommunication 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 management.
- Enable Indian telecommunication companies to become truly global players.
- 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 telecommunication 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 telecommunication 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.
- Provide high-speed data and multimedia capability using technologies including ISDN to all towns with a population greater than 200,000 by the year 2002.

Q2. What are the roles of policy-makers and regulators in licensing?

Hong Kong

The role of policy-makers in a broader sense is to decide whether the relevant markets or sectors to be regulated (e.g., monopoly or duopoliy etc.) or liberalized with competition. Under the broader policy, they either fix the number of licensees or let market decide regarding specific licensing.

The Chief Executive of Council sometimes approves or endorses in case of certain important policy-decisions required: For instance, premature termination of C&W Ltd.'s exclusive licence with compensation in 1998; opening up limited number of licensees, and new hybrid licensing mechanisms such as auction based on loyalty introduced in case of 3G[1].

The OFTA empowered by the Telecommunications Ordinance (Chapter 106) is an executing body to implement policies such as selection of the licensees and day-to-day regulatory monitoring - e.g., interconnection, access, and competition – through publishing guidelines. The rest outside of the Ordinance can be dealt with at the Court.

INDIA

The main role of the regulators and policy makers include the followings, but not limited to: e.g.,

[1] Refer to "3G services" under the multimedia training materials at www.ofta-coe.ofta.gov.hk with 'preview' as user name & 'dg2917' as password.

- Setting the time for introduction of new service provider - i.e., licensees;
- Setting out the terms and conditions of licensees;
- Ensuring compliance of the terms and conditions of licensees;
- Facilitating competition and promoting efficiency in the operation of telecommunication services so as to facilitate growth in the relevant services;
- Developing telecommunication technologies and services provided by the licensees;
- Ensuring the development of telecommunication industries;
- Efficient management of spectrum;
- Ensuring technical compatibility and effective interconnection between different licensees.

Prior to the establishment of independent regulator (i.e. TRAI), the Department of Telecommunications (DOT) under the Ministry of Communication was acting as both the regulator and service provider. To facilitate and promote fair competitions, DoT's multiple roles as a licensor, policy maker and service provider became imperative to split up. Therefore, its functions of service provision were corporatised in 2000 - i.e., the Bharat Sanchar Nigam Ltd.

Q3. What categories or types of licenses and licensing do exist ?

HONG KONG

The Amended Telecommunications Ordinance, which is into force on April 1 2001, introduces a new licensing regime with four categories: i.e., exclusive licences, carrier licences, class licence, and licences that fall outside the former three categories.

The 'exclusive licences' means any licence issued on an exclusive basis for operation or provision of telecommunication networks, systems, installations or services. In accordance with the Telecommunication Ordinance, the Chief Executive in Council may determine the conditions of the licence including the period of validity, the payment of fees and royalty, the frequency of any payments, and grant the licence. However, this has not yet been in operation.[2]

The 'carrier licence', which is based on facilities for public services or system, is defined as '*a licence issued for the establishment or maintenance of a telecommunications network for carrying communications to or from the public between fixed locations, between moving locations or between fixed locations and moving locations, within Hong Kong, or between Hong Kong and places outside Hong Kong, on a point-to-point, point-to-multipoint or broadcasting basis, such locations within Hong Kong'*. The facilities to be regulated under a carrier licence would involve substantial investment and provide services to a wide sector of the public.

The existing licences falling within the carrier licence system are: FTNS licence, PRS licence for personal communications service (PCS licence), public mobile radiotelephone service (PMRS licence), and services other than land mobile services (such as maritime mobile or aeronautical mobile services), licence issued for the operation of satellite space stations and television broadcasting licences are deemed to be telecommunications licences[3].

The carrier licence system is again divided into the following three types:

- 'carrier (fixed) licence';

2 *Telecommunications Ordinance, Chapter 106,* Part I & III, 2001.

3 'Consultation Paper on the Implementation of Carrier Licence under Telecommunications Ordinance Amended by Telecommunication (Amendment) Ordinance 2000, 8 September 2000.

- ‘carrier (mobile) licence’;
- ‘carrier (space station) licence’.

The scope of services for each of the carrier licences, which are specified in the individual licences and will be reviewed from time to time by the OFTA, are set out as below:

Table 1: Examples - Scope of Carrier Licence

A. Carrier (fixed) licence

Corresponding existing licence and means of providing the service	**Service under existing licence**	**Scope of carrier licence**
Wireline-based FTNS	Services for telecommunications between network termination points (fixed points) (a) within HKSAR (internal telecommunications services) (b) between one or more points in HKSAR and one or more points outside HKSAR, and between two or more points outside HKSAR but routed in transit via HKSAR (external telecommunications services)	No change
Local wireless FTNS	Internal telecommunications services between fixed points	No change
Satellite-based external FTNS	External telecommunications services between fixed points by means of satellite	No change
Submarine cable-based external FTNS	External telecommunications services between fixed points by means of submarine cable and satellite	No change
Overland cable-based external FTNS	External telecommunications services between fixed points by means of overland cable and satellite	No change
FTNS over the hybrid fibre coaxial cable network of Hong Kong Cable Television Limited	Local telecommunications services between fixed points	Other than the services already permitted under the existing licence, the licensee is also allowed to transmit subscription television signals upon the enactment of the Broadcasting Ordinance
Renewed subscription television broadcasting licence	The establishment, maintenance and operation of a cable network and of a network using multi-point microwave distribution system (MMDS) for distributing (a) domestic pay television programme services licensed under the Broadcasting Ordinance (b) teletext signals (c) subcarrier information ancillary to the domestic pay television signals of domestic pay television service (d) non-programme associated information over the vertical blanking interval (VBI) of the television signals (e) any test or experimental transmissions (f) station identification signal The establishment and maintenance of associated telecommunications apparatus and services incidental to the operation of a broadcasting service	The same as existing licence

Corresponding existing licence and means of providing the service	Service under existing licence	Scope of carrier licence
Satellite television uplink and downlink licence	The establishment, maintenance and operation of (a) a radiocommunications station to transmit television and associated sound and data signals to those satellites for the distribution of the licensee's services licensed under the Broadcasting Ordinance (b) a radiocommunications station to receive television and associated sound and data signals containing such programming and other material as the licensee may require for its services (c) such microwave stations to transmit television and associated sound and data signals between any points in Hong Kong and to the uplink station for the purpose of providing the services The offer or provision of services or facilities to transmit or receive television and associated sound and data signals for others as approved by the Authority.	The same as existing licence
Commercial Television Broadcasting Licence	The establishment, maintenance and operation of radiocommunications stations for transmitting (a) the domestic free television programme service of the licensee (b) subcarrier information ancillary to the domestic free television signals of domestic free television service licence (c) non-programme associated information over the VBI of the television signals (d) test signals or experimental transmissions (e) station identification signal The establishment and maintenance of such associated telecommunications apparatus and services incidental to the operation of a broadcasting service	The same as existing licence, except that the licensee may also be allowed to transmit or receive television and associated sound and data signals for others

B. Carrier (mobile) licence

Corresponding existing licence and means of providing the service	Service under existing licence	Scope of carrier licence
Personal Communications Services (PCS)	Public mobile radiocommunications service using the cellular communication technology within the 1.7-1.9 GHz band to enable a customer to conduct both way communications between the mobile station of the customers and any apparatus, station or service connected to any public telecommunications networks in HKSAR Establishment of direct radiocommunications circuits between the mobile stations of customers of the service with the base stations on the full-duplex channels within the 1.7-1.9 GHz band Exclusion of any direct radiocommunications between a station in HKSAR and a station outside HKSAR Provision for the carriage of telephonic and non-telephonic messages Voice and facsimile mailbox service enabling any member of the public to deposit voice or facsimile messages into the electronic mailboxes allocated to customers of the service through a public telecommunications service licensed under the amended Telecommunications Ordinance for subsequent retrieval by customers Dealing in and demonstration with a view to sale in the course of trade or business such apparatus or material for radiocommunications as may be necessary to supply customers of the service	No change
Public Mobile Radiotelephone Services (PMRS)	Same as above for PCS except that the 800/900 MHz band is used instead of the 1.7-1.9 GHz band	No change
Public radiocommunication service (for services other than land mobile services)	Public radiocommunications service including: (a) maritime mobile service, which means a mobile radiocommunications service between the coast stations operated by the licensee in the territory of HKSAR and customers' ship stations (regardless of whether the ship stations are within HKSAR waters or outside the territory of the HKSAR), or between customers' ship station	No change

Corresponding existing licence and means of providing the service	Service under existing licence	Scope of carrier licence
	(regardless of whether the ship stations are within HKSAR waters or outside the territory of HKSAR) routed in transit via the coast stations operated by the licensee in the territory of HKSAR (b) maritime mobile-satellite service, which means a mobile radiocommunications service via satellite between the coast earth stations operated by the licensee in the territory of HKSAR and customers' ship earth stations (regardless of whether the ship earth stations are within HKSAR waters or outside the territory of HKSAR), or between customers' ship earth stations (regardless of whether the ship earth stations are within HKSAR waters or outside the territory of HKSAR) routed in transit via the coast earth stations operated by the licensee in the territory of HKSAR (c) aeronautical mobile service, which means a mobile radiocommunications service between the aeronautical stations operated by the licensee in the territory of HKSAR and customers' aircraft stations (regardless of whether the aircraft stations are located within the territory of HKSAR or outside the territory of HKSAR), or between customers' aircraft stations (regardless of whether the aircraft stations are located within the territory of HKSAR or outside the territory of HKSAR) routed in transit via the aeronautical stations operated by the licensee in the territory of HKSAR. (d) aeronautical mobile-satellite service, which means a mobile radiocommunications service via satellite between the aeronautical earth stations operated by the licensee in the territory of HKSAR and customers' aircraft earth stations (regardless of whether the aircraft earth stations are located within the territory of HKSAR or outside the territory of the HKSAR), or between customers' aircraft earth stations (regardless of whether the aircraft earth stations are located within the territory of HKSAR or outside the territory of HKSAR) routed in transit via the aeronautical earth stations operated by the licensee in the territory of HKSAR (e) Land mobile-satellite service, which means a mobile radiocommunications service via satellite between the gateway earth stations operated by the licensee in the territory of HKSAR and customers' land mobile earth stations (regardless of whether the land mobile earth stations are located within the territory of HKSAR or outside the territory of HKSAR), or between customers' land mobile earth stations (regardless whether the land mobile earth stations are located within the territory of HKSAR or outside the territory of HKSAR) routed in transit via the gateway earth stations operated by the licensee in the territory of HKSAR The operation of coast stations, coast earth stations, aeronautical stations, aeronautical earth stations and gateway earth stations for the maritime mobile service, maritime mobile-satellite service, aeronautical mobile service, aeronautical mobile-satellite service and land mobile-satellite service respectively Exclusion of the operation of any mobile station or space station for the services Availability of access from and provision of access to any public telecommunications services lawfully operated in the HKSAR Provision of the carriage of telephonic and non-telephonic messages	

C. Carrier (space stations) licence

Corresponding existing licence and means of providing the service	Service under existing licence	Scope of carrier licence

Corresponding existing licence and means of providing the service	Service under existing licence	Scope of carrier licence
Licence issued for the operation of satellite space stations	The establishment, maintenance, possession, use and operation of radiocommunications stations as follows: (a) earth stations for telemetry, tracking and control of space objects (b) earth stations for monitoring space objects (c) space stations on board the satellite for radiocommunications (d) space stations on board the satellite for telemetry, tracking and control of space objects	Other than the services already permitted by the existing licence, the licensee is also allowed to sell or lease the transmission capacities associated with the space stations on board the satellite for radiocommunications

The three types of carrier licence will have the same form and general conditions, but the validity periods and fees payable are different.

The rest is considered as private telecommunication service or system licences, which are currently dealt with under the Exemption Orders requiring less restrictions: e.g., value-added services, low power device etc. The OFTA is planning to replace this private telecommunication service or system licence by 'class' licence in such cases as in-building cables, telecommunication services without using equipment like SIM or calling cards, and terminal equipment like low power device and GMPCS terminals. This 'class' licence is only required for 'register', although its licensees need to interconnect with the relevant licensees based on the relevant terms and conditions.

All these licences are based on *'technology-neutral'*. Therefore, licensing can be less effected by ever fast changing or innovating technologies and services.

It is also worth noting that one operator can obtain multiple licences ranging from the carrier (e.g., both fixed and mobile) to other value-added services.

INDIA

The Government of India issues various types of licenses for different services. The services are mainly classified as 'basic services' and 'value added services'. The Government adopted the policy of incremental liberalization in the basic service sector with the decision to allow private operators enter to the local level for each telecommunication circle. Foreign participation is permitted up to a maximum 49% of the total equity in case of the basic services.

The main types or categories of licenses being issued are as follows: e.g.,

- Basic Services
- Cellular mobile telephone services
- Radio Paging Services
- Internet
- Value Added Services
- Voice Mail Services
- Global Mobile Personal communication by Satellite.

In accordance to the licensing categories, the licenses have been granted for the following services: e.g.

- Access Providers including Cellular Mobile Services Providers, Fixed Services Providers, and Cable Service Providers;
- Radio Paging Services Providers;
- Public Mobile Radio Trunking Service Providers;
- National Long Distance Operators;
- Other service Providers;
- Global Mobile Personal Communication by Satellite (GMPCS) Service Providers; &
- VSAT based Service Providers

Q4. What are the difference(s), if any, concerning the different types of licences?

HONG KONG

In history, the licences were granted due to new types of services and technologies as well as different requirements for the wide public interests, capital investment, limited resources like frequency spectrum.

The main reason for different classification of licences is the different scale of and rights from investments in networks or systems between the carrier licensees and the others. For instance, the former invests in facilities with huge capital investments with high expectation, rights and obligations out of the licence, whilst the latter is based on their own private networks or services with less rights and obligations required.

INDIA

In case of India, the licences for the different services have been issued on a first-come first-served basis with a minimum entry qualification. However, the number of operators for cellular mobile services has been restricted due to spectrum constraint. The Government does not interfere or differentiate the various types of licences as long as the minimum entry qualification has been fulfilled by the licensees.

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 interconnection between licensed CMSP's 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. 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 standards set by the International Telecommunication Union (ITU) and Telecommunication Engineering Center(TEC).

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

Availability of adequate frequency spectrum is essential not only for proving 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 (government operator) 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 fees would be payable by the DoT too. However, as DoT is the national service provider having immense rural and social obligations, the Government will reimburse full license fees 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, requirement 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 fees based on a revenue share. It is proposed that the appropriate level of entry fee and percentage of revenue sharing arrangement for different service areas would be recommended by the TRAI in a time-bound manner, keeping in view the objectives of the New Telecommunication Policy

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's 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. The FSP may also utilize last mile linkages or transmission links within its 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 pocket switches, that meet the relevant standards of International Telecommunication Union (ITU) and Telecommunication Engineering Center (TEC).

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

While market forces will ultimately determine the number of fixed service providers, during transition, number of entrants have to be carefully decided to eliminate non-serious players and allow new entrants to establish themselves. Therefore, the option of entry 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 licenses would be required to pay one-time entry fees. All FSP licenses shall pay licence fees in the form of a revenue sharing. 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 the TRAI in a time-bound manner, keeping in view the objectives of the New Telecommunication Policy.

As in the case for cellular, including Wireless Local Loop (WLL), 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 FSPs requiring the same. Based on the payment of additional one time fee over and above the FSP entry fee. The basis of 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 sharing for spectrum utilization. The 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 for revenue sharing for WLL in different service areas of operation will be recommended by the TRAI in a time bound manner, keeping in view the objectives of the New Telecommunication Policy.

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 services areas of operation and operate media services, which are essentially one-way, entertainment related services. Direct interconnection between CSP's 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. Interconnection between service providers in different service areas shall be reviewed in consultation with the TRAI and the same would be convergence. It is highly likely that two-way communication (including voice data and information services) through cable network would tantamount to providing fixed services. Accordingly, in case the above two-way communication services are to be provided by CSPs utilizing their network, they would also be required to obtain an FSP license and be bound by the license conditions of the FSPs, with a view to ensure level playing field.

Internet Telephony

Internet telephony has been permitted either by the existing telecommunication licensees or ISP (VIOP). However, there are still limits to provide full Internet telephony, whilst the Government continues to monitor the technological innovations and their impact on national development and review this service and technology.

Radio Paging Service Providers

The Radio Paging Service Providers (RPSP) shall be permitted to provide paging services within their service area of operation. Direct interconnection between licensed RPSPs and any other type of service provider in their area of operation including sharing of infrastructure shall be permitted.

The RPSP shall be granted a separate licence, on a non-exclusive basis, for each service area of operation. Licence 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 a licence 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 areas 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 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 fees as a revenue sharing. It is proposed that the appropriate level of entry fee and percentage of revenue sharing for different service areas of operation will be recommended by the TRAI in a time-bound manner, keeping in view the objectives of the New Telecommunication Policy. Furthermore, the TRAI may also examine and recommend the revenue sharing arrangements between RPSP and other access providers, subject to technical feasibility.

Public Mobile Radio Trunking Service Providers

The Public Mobile Radio Service Providers (PMRTSP) shall be permitted to provide mobile radio trunking services within their service area of operation. Direct interconnection 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 a separate licence, on a non-exclusive basis, for each service area of operation. Licences 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 licences for any number of service areas.

PMRTSP licensees would be also required to pay 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 sharing. It is proposed that the appropriate level of entry fee and percentage of revenue sharing arrangement for different service areas would be recommended by the TRAI in a time-bound manner, keeping in view the objectives of the New Telecommunication Policy.

National Long Distance Operator

National Long Distance Operation Service (NLDOS) beyond service area to the private operators is 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 mandatorily required to provide interconnection to the NLDOs resulting in choice for subscribers to make long distance calls through any operator. The terms and conditions would also specify the number of operators, licence conditions on revenue sharing basis and other related issues.

Usage of the existing backbone network of public and private power transmission companies, railways, etc. shall be allowed for national long distance data communication and for national long distance voice communications.

International Long Distance Services

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

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 licence fees 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.

Global Mobile Personal Communications Systems

The Government has opened up the GMPCS market in India and has issued a provisional licence. The terms of the final licence would need to be finalized in consultation with the TRAI. 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 standards set by the International Telecommunication union (ITU)/ Telecommunication Engineering Center. However, the licences 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 the TRAI, keeping in view the objectives of the New Telecommunication Policy.

Satellite Communications

The SATCOM shall be provided for users through 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.

VSAT Service Providers

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

VSAT licensees would be required to pay 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 sharing. It is proposed that the appropriate level of entry fee and percentage

of revenue share arrangement would be recommended by the TRAI in a time bound manner, keeping in view the objectives of the New Telecommunication Policy.

These kinds of vertical licensing for service-by-service based on specific technologies in many countries are changing towards more horizontal licensing based on technology and service neutral approaches.

Q5. What are the licensing criteria ?

HONG KONG

Licensing criteria, which requires potential licensees to be satisfied before obtaining the relevant licence, will differ in accordance with different types or categories of licences. But, the broad scope of licensing criteria, which can provide licence applicants with transparent and open guidelines, will at large include:

- Scale of investment and capacity
- Financial capability: The applicant must have the financial capability and willingness to invest sufficient capital to provide a satisfactory public service.
- Performance bond
- Technical soundness and a satisfactory quality of service: The service proposed in the application must be technically sound and compatible with the local environment. This includes the expertise required in the operation and maintenance of the system. Previous experience of the applicant in operating similar services will be taken into account.
- Proven managerial and technical expertise
- Service quality and charges
- Implementation schedule
- Quality of proposal
- The proposed service and facilities will be expected to comply with the relevant ITU-T Recommendations except as specifically agreed otherwise by the OFTA
- If interconnection with other public telecommunication networks/services is required, the equipment of the proposed service shall meet the technical specifications for interconnection with such networks/services as specified by the OFTA
- Benefit to the local telecommunication industry to customers in Hong Kong and to the economy as a whole
- A clearly workable and defined corporate structure which minimizes 'deadlocks' and contain sensible dispute resolution procedures[4]
- The proposed service shall not carry unsolicited advertisements or entertainment materials

INDIA

4 Guidance Note for the Submission of Proposals for the Operation of External Fixed Telecommunication Network Services in Hong Kong Special Administrative Region, 18 April 2000.

In case of India, the general criteria for licensing are as follows: e.g.,

- Licensee should be an Indian Company.
- Foreign equity in the company should not exceed 49% of the total equity.
- Execution of performance bank guarantee.
- Stipulated network and experience
- Licensees shall comply with technical specification, commercial conditions, financial conditions and operating conditions prescribed by the DoT.

These telecommunication specific-oriented licensing criteria (e.g., foreign ownership restriction etc.) may need to be modified to accommodate the converged ICT era.

Q6. What kind of licensing mechanisms should be implemented ?

As for the private or value-added services or systems, any applicant can be granted the relevant licence(s) in many countries, should they satisfy the required licensing criteria: i.e., no selection or licensing mechanisms, but *simple register.*

As for the public service or systems like 'carrier' or 'basic' – facility-based - service licences, there may not be licensing mechanisms required, should there be no constrains for public resources (e.g., radio spectrum number etc.). In case where there are constrains in public resources, however, selection of licensees or licensing mechanisms may be in general adopted and implemented by many countries on a basis of one or combined methods subject to different categories or types of licences as follows:

- Case-by-case ad-hoc decision-making;
- Comparative qualitative evaluation of bid (i.e., a 'beauty content') among short-listed bidders in certain cases;
- Comparative hearings;
- Lottery;
- Auction;
- Grant of a franchise licence by legislative action; and
- Combination of the above (e.g., an auction among bidders who succeed in the initial beauty contest).

Hong Kong

Regarding the private services or systems, any applicant can be granted the relevant licence(s) in Hong Kong should they satisfy the required licensing criteria. As for the public services or systems like 'carrier' licences, there are in principle neither selection nor licensing mechanisms required in case of no constraints for public resources. Where there are constraints in public resources, however, licensing mechanisms like a 'beauty contest' or 'comparative qualitative evaluation of bid among short-listed bidders based on assessment over such criteria as financial and technical capability, capital investment, network roll-out plan, services to be offered to customers etc. have been implemented.

There are pros and cons over the relevant licensing mechanisms involving scare resources such as spectrum – especially over auction and beauty contest. Some arguments over auctions and beauty contest include, but not limited to: e.g.,

- Auction the spectrum results in a more economically efficient outcome since auctioning reveals licence value – i.e., the spectrum is regarded to be allocated to those who value it most and can maximize the economic benefit from its use;
- Auctions favour incumbents with financial strength and not the most innovative bidder;
- Auctions may push the prices of spectrum licences up and cause bidders to overbid;
- Beauty contest can be subjective especially in the case of 3G licensing

It is worth noting that any criteria used to grant licences via the comparative selection method can also be used within the auction method: e.g., licences can be set aside for minority groups and new entrants under the authority of government or regulator(s).

For instance, after in-depth consultation process from March 2000, the Information Technology and Broadcasting Bureau (ITBB) announced on February 13, 2001 to conduct a pre-qualification exercise followed by spectrum auctioning, to select four 3G licensees. Given the spectrum constraint, limited numbers of four licensees will be granted. The pre-qualification process is intended to be relatively light, but will involve setting certain minimum criteria on investment, network rollout, service quality, financial capability, etc.

In a move to encourage companies to enter the biding, also, winning bidders will pay for the licences either via a minimum annual fee or a royalty fee calculated as a percentage of turnover from network income, whichever is higher, Thus, phone operators vying for the licences will bid simultaneously for the minimum licence fee and royalty percentage they are prepared to pay. [5]

This is expected to ensure the quality of the 3G networks and services to the benefit of consumers. Despite *pros* and *cons* over spectrum auctioning, this is considered to be a fair and efficient method to allocate spectrum to the applicants with the best business cases. In considering the payment method of auctioning, the Government has taken into account the fast changing development in the global telecommunications market and the characteristics of the mobile services market in Hong Kong. Such unique licensing framework as the royalty-based proposal, which requires the bidders to pay a certain percentage of their annual 3G revenue turnover determined by the auction, is anticipated to encourage market entry and keeps the financial burden to operators at a manageable level. The royalty payment will be subject to a guaranteed, minimum payment. [6]

INDIA

Maximum number of service areas a licensee can be licensed for, is dependent upon the total net worth of the licensee. A successful bidder can be awarded licence for many categories provided the licensee have sufficient net worth.

On selection of the licensee, a letter of intent [LOI] will be issued to select bidders. Four weeks time shall be given for acceptance. Letter of acceptance by the bidders must be submitted along with financial and performance bank guarantee.

After acceptance of the LOI, bidders shall enter in to a license agreement with the DoT for the successful execution of the tender. The licensee shall pay the licence fees as specified.

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5 Roger Evers, '3G licensees must share spectrum', *iMail*, February 14, 2001, pp.B1.

6 Press Release Issued by Information Technology and Broadcasting Bureau on 13 February 2001 : The Licensing Framework for Third Generation Mobile Services

Q7. What kind of licensing guidelines should be provided by regulators ?

HONG KONG

A Guidance of each licence may differ in accordance with the scope of services or systems. Nevertheless, guidance note will in general provide information on how the OFTA intends to issue licences for the provision of each category or type of services or systems.

The guidance note is in principle designed to assist interested parties in formulating their proposals. It does not bind the OFTA to grant any licence nor on the terms of any licence to be granted.

For instance of a Guidance Note for the Operation of External Fixed Telecommunication Network Services ("FTNS"), it covers the followings:

- Introduction of the scope of the FTNS, which the Government intends to issue the relevant licence;
- The regulatory framework for the FTNS;
- General information related to external FTNS;
- Information for applicants who intend to provide the relevant external FTNS;
- Terms of licensing arrangement;
- Information to be provided in proposals or applications;
- Sample FTNS licence[7];
- Any other relevant information.

INDIA

In case of India, licence for each service has guidelines attached with depending on the types of licenses[8] (e.g., A sample of guidelines and general information for setting up of submarine cable landing stations for international gateways for Internet). However the broad guidelines are as under: e.g.,

- Licensee should be an Indian company.
- Foreign equity in the licensed company should not exceed 49% of the total equity at anytime during the entire license period.
- Licensee shall submit performance bank guarantees to ensure compliance of licence conditions.
- The licence will be issued on a non-exclusive basis.

Q8. What should licence application forms include?

HONG KONG

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7 'Guidance Note for the Submission of Proposals for the Operation of External Fixed telecommunication Network Services in Hong Kong Special Administrative Region', 18 April 2000. Or http://www.ofta.gov.hk

8 Note Annex 1: Guidelines and general information for setting up of submarine cable landing stations for international gateways for Internet. www.dotindia.com/investment/isp/information_submarine_landing_stn.htm.

The carrier licences do not have specific licence application forms, but there will be specific guidelines for the licence application required. Whilst, the other categories of licences, which require simpler requirements and processes, have the licence application forms. Information, that has to be included in the relevant application, is in general as follows:

- Company Structure and Financial Capability: Details of the company which wishes to establish and operate the proposed service, including information on the corporate structure of the company: e.g.,

  - If the applicant is an established company, a copy of its audited profit and loss accounts and balance sheets for the last three years.
  - If the applicant is a newly-formed company, directors' certificate of the amount of issued and paid-up share capital together with bankers' confirmation of the amount of its deposits and/or available credit facilities, and copies of audited accounts for the last three years of the company's shareholders, if any.
  - A budgeted profit and loss statement for the proposed service for the first five years' operation, with estimated number of subscribers, planned system capacity, the breakdown of initial capital investment, level of charges and estimated annual revenue and operating costs.
  - Sufficient documentary evidence to prove that the applicant has the financial capability to meet the capital investment required in the financial plan.

- Description of the Service: A detailed description of the service to be provided, including any special operational features available.

- Technical Details of the System: A description of the system to be installed, including system configuration, architecture and operation and if appropriate, how the system is interconnected with other public telecommunication networks/services.

- Technical Support: Technical support facilities in Hong Kong, including a description of the technical personnel responsible for the day-to-day operation and maintenance of the facilities and the routine maintenance procedure.

- Previous Experience of Applicant: Previous experience in the establishment and operation of the service proposed, with details of cities or countries in which an identical or a similar service is operating, with timescales, system capacities, etc.

- Other Information:

  - The implementation programme, which is particularly important if it is proposed to introduce the service in stages.
  - Confirmation of compliance with the ITU-T Recommendations and other specifications or standards, which are specifically relevant to the proposed service.

INDIA

Similar to Hong Kong, the applications should include the following documents in India apart from the above: e.g.,

- Copy of Company Registration Certificate.

- Articles and Memorandum of association of the bidding company.

- Net worth and experience calculation sheet.

- Annual reports for the last five financial years.

- A comprehensive detailed document containing:

  - Company profile with details of projects of comparable size executed and managed.
  - Engineering details.
  - Five years financial plan with funding mechanism.
  - Details of support system to be deployed.
  - Covering net worth and traffic management, billing, fault repair and customer services.
  - Quality management.
  - Documentary evidence in support of the experience and other quoted items.
  - Approval of the government for foreign investment.

Q9. What are the licensing procedures ?

When the government or regulator(s) intends to grant licences, it shall do so by:

- Granting licences through open, non-discriminatory, transparent procedures and, to this end, subject all applicants to the same procedures, unless there is an objective reason for differentiations, and
- Setting reasonable time limits, and *inter alia* it shall communicate to the applicant a decision on the application as soon as possible but not later than certain time period (e.g., 6 weeks) after it has received the application.[9]

HONG KONG

The licensing procedures may vary depending on each licensing categories or types. But, the procedures in general cover the followings in Hong Kong:

- Draft by the OFTA taking into account demands from the markets;
- Consultations among various interested parties and experts;
- Prepare for the Guidance Note of the relevant licence(s) by the OFTA;
- Invite interested parties to submit their proposals (or licence applications) in accordance with the relevant Guidance Note;
- Evaluate the proposals received by a selection committee composed of senior officers from the OFTA and other government departments such as Department of Justice and the ITBB, on their merits having regard to the information provided as requested and to the broad licensing criteria outlined in the Guidance Note;
- Grant the relevant licence by the OFTA

In case of private system, which requires routine administration, it is normally dealt with by clerical officials assisted by technical staff. But, in case of public system, it is in general handled by technical staff with approvals by senior officials. However, such cases as mobile communication and 3G with more complex licensing criteria and conditions required, a section

[9] European Council Directive (96/C 90/05), p.876.

committee represented by the ITTB and other government departments can be established with various consultations by industries as well as consumers.

INDIA

In case of India, the licensing procedures for the various services are in principle given through open tender, where there is a utilization of spectrum. Otherwise, licences were given based on a minimum entry qualification. Radio paging [as well as cellular mobile communication services are licensed on the basis of open tenders, whereas licenses for all other value added services were granted on fixed licence fees subject to fulfillment of certain eligibility criteria.

While floating open tenders, biddings were invited by the DoT in 1992 among Indian companies for a ten year licence period for each territory. No paging service operator was allowed to bid for more than 10 cities. There was, however, no limit on the bidding for number of circles. In the bidding procedure, the highest bid was automatically accepted. This helped in introducing multiple paging operators in each city and also maximized the revenue for the Government from the licence fees. Though the paging operators agreed to make payment of the licence fee at that time, the high license fee quantum has not been found sustainable after three years of operations for the majority of the paging operators.

Q10. Are there any obligation or restriction imposed by international agreements (e.g., GATS, ITU etc.), when licensing ?

HONG KONG

As a member of the WTO, Hong Kong (China) satisfies most principles required by the GATS in telecommunications such specific commitments as 'market access' and 'national treatment'[10], through which neither restriction nor discrimination for foreign investments or ownership obligation is imposed except in the areas of the local fixed service until 2003 to ensure competitiveness of local carrier(s).

Also, licence applicants are requested in their proposal or application form to comply with the ITU-T Recommendation (i.e., international standards) and other specifications or standards which are specifically relevant to the proposed service.

INDIA

India being a signatory to WTO is under obligation to open up the various telecommunication services in a time bound manner. Also, standards set by the International Telecommunication Union are being taken into account, when examining the appropriate licence application forms as well as notifying the relevant guidance notes.

Q11. How to set licensing fees ?

There can be three scopes of licensing fees: e.g.,

- *Cost-recovery*;

[10] WTO, Articles XVI & XVII of General Agreement on Trade in Service.

- *Costs of scarce resources* (e.g., radio spectrum) consumed by operators;
- *Sharing values of businesses*.

In case of European Union, any fees imposed on undertakings as part of authorization procedures – i.e., licensing – aims at covering the administrative costs incurred in the implementation of the applicable licence. Fees, the criteria upon which they are based and any changes thereto, should be published in an appropriate and sufficiently detailed manner, so as to provide easy access to that information. As for scarce resources, regulators are allowed to impose, in a non-discriminatory manner, a fee for issuing the licence. This fee is required to take into account the need for the optimal use of this resource as well as for the introduction and the development of innovative services and competition.[11]

Hong Kong

The main philosophy of licence fees in Hong Kong is not entirely to generate revenues but to cover administration costs. Although the OFTA is one of government departments whose budgets normally are funded by the central government, it is being operated under the name called 'trading funds' generated from the industries that the OFTA regulates. The licensing fees are being regularly reviewed to adjust the costs in accordance to the markets.

Licensing fees can also be used as a ***market entry barrier or incentive***. In other words, if the licence fees are too high, operators may be reluctant to enter into the specific markets and difficult to be profitable even once in the market. On the contrast, if the licence fees are based on administrative cost-recovery, it can be regarded as an incentive not only for the potential licensees *per se* but also for infrastructure development requiring heavy investments. When the licensees can generate revenues from successful operation in markets, they can return their shares to the relevant government as taxes, where appropriate.

The licensing fee structures for the carrier licences, as shown in Table 2, would be of the same or comparable level as those for the respective licences under the existing regime. It is a policy in Hong Kong that the licence fee should recover the cost incurred by the OFTA in granting the licence and regulating the licensed activities.

Table 2: Examples of Licence Fee Structure

11 European Council Directive (96/C 90/05), p.877.

Major Categories	Divided Types of Licences	Fee Structure
Carrier [public] Licence	Fixed	1. A fee of $1,000,000 shall be payable on the grant of a licence and, in each year while the licence remains in force, on the anniversary of the grant of the licence. 2. A fee of $700 shall be payable on each anniversary of the grant or the renewal of the licence for each 100 customer connections, made by telecommunications line or radiocommunications means, to the Network established and maintained under Schedule 2 to the licence provided by the licensee. 3. Save as provided in paragraph 4, a fee for use of radio spectrum assigned to the licensee shall be payable on the grant and on each anniversary of the grant of the licence and calculated in accordance with the formula set out below – (a) where the radio spectrum is assigned exclusively to the licensee – (i) $50 for every 1 kHz or part thereof of spectrum then assigned below 1 GHz; (ii) $(50-4F) for every 1 kHz or part thereof of spectrum then assigned within 1 GHz to 10.999 GHz, where F is the frequency rounded down to the nearest GHz in the band then assigned; (iii) $(20-F) for every 1 kHz or part thereof of spectrum then assigned within 11 GHz to 18.999 GHz, where F is the frequency rounded down to the nearest GHz in the band then assigned; (iv) $1 for every 1 kHz or part thereof spectrum assigned at or above 19 GHz; (b) where any part of the radio spectrum is assigned to the licensee on a non-exclusive or shared basis, the fee calculated in accordance with the formula set out in subparagraph (a) shall be proportionally reduced by a reduction factor equal to the number of users authorized or reserved by the Authority to use that particular part of the radio spectrum. For the avoidance of doubt, the reduction factor is to be determined on the grant and on each anniversary of the grant of the licence. 4. No fee is payable for the use of spectrum within any of the following frequency bands – 6.765 – 6.795 MHz 13.553 – 13.567 MHz 26.957 – 27.283 MHz 40.66 – 40.7 MHz 2400 – 2500 MHz 5.725 – 5.875 GHz 24.0 – 24.25 GHz 61 – 61.5 GHz 122 – 123 GHz 244 – 246 GHz
	Mobile	1. The annual fee payable on the grant and on the anniversary of the grant of a licence in each year while the licence remains in force shall be the sum of – (a) for the 1st to the 50th base station installed for the service: $1,000 per base station (b) for the 51st to the 100th base station installed for the service: $500 per base station (c) for the 101st base station installed for the service and any additional base stations: $100 per base station (d) for the 1st 200 mobile stations or less used by customers of the service[12]: $6,000 (e) for every additional 100 mobile stations or less used by customers of the service: $3,000 (f) for every 1 kHz of spectrum assigned to the licensee: $50 2. For the purpose of determining the fees payable, the number of stations and the width of the spectrum assigned shall be those authorized or in service at the time when the licence is granted or on the anniversary of the grant.

[12] For those mobile services using SIM cards, the number of mobile stations will be the number of activated SIM and prepaid SIM cards. An activated SIM or prepaid SIM card means a SIM card or prepaid SIM card which has been sold to customer and has at least been used once.

	Space Stations	1. For licence that covers operation of radiocommunications equipment on board the satellite (a) an initial fee of $450,000 is payable on the grant of the licence (b) a fee of $150,000 is payable on the anniversary of the grant of the licence in each year while the licence remains in force. 2. For licence that only covers the earth stations for telemetry, tracking, control and monitoring (a) an initial fee of $120,000 is payable on the grant of the licence a fee of $80,000 is payable on the anniversary of the grant of the licence in each year while the licence remains in force.

The rest of fee structure can be referred to http://www.justice.gov.hk/home.htm.

INDIA

The License fee in India is set by the TRAI after holding various consultations with all the concerned parties such as Industrial Association, Consumer Association and funding agencies and various government agencies involved in the process. Licence fee is set by the TRAI based on the following criteria: e.g.,

- Adopting the policy objective.
- Viability study report.
- Revenue sharing.

Different services have different fee structures. In case of cellular mobile services, the fee has been quoted by the licensees who are bidding for the licence. Other services have fixed or entry fees depending on services.

There were two regimes of the licence fees for paging service operators: e.g., one for the cities and the other for the circles. For the cities, the licence fees for the first three years was to be paid in three installments with a provision for review of licence fees for the fourth year onwards. The licence fees for the circles to be paid over a period of ten years were fixed at the initial stage itself.

Q12. How to set the period of validity?

HONG KONG

Except for the carrier (mobile) licences, no changes are made the validity periods. Thus, the period of validity of carrier (fixed) licence remains as 15 years with a renewal of further period not exceeding 15 years. That of carrier (space stations) licence remains as 20 years from the day on which it is granted.

In the light of the rapid development of the mobile services market, the adequacy of the length of validity period for the carrier (mobile) licences have been reviewed. As licences for the third generation (3G) mobile services would fall under the category of carrier (mobile) licence, it is necessary to ensure that the validity period for carrier (mobile) licences would be sufficient for operators to recoup their substantial investment. Thus, a valid period of 15 years is proposed. Especially, in case of 3G, the winning bidders pay a flat annual fee for the first 5 years and continue to pay a percentage of their 3G network turnover for the remaining 10 years.

INDIA

In India most of the licences are issued for a period of 20 years extendable by 10 years at one time. The period has been set keeping in view the large investment required and to assure a reasonable return for the investment made by the private sector.[13]

Q13. How many licensees should be allowed ?

In case of European Union, each country may limit *a priori* the number of licences for any category of telecommunications, only to the extent required to ensure the efficient use of radio frequencies and in conformity with competition rules. Where the number of licences is required to be limited, it should:

- Give due weight to the need to facilitate the development of competition and to maximize benefits for users;
- Enable interested parties to express their views on any limitation;
- Publish its decision to limit the number of licences, stating the reasons;
- Review the limitation at reasonable interval; and
- Invite applications of licences.[14]

HONG KONG

In accordance with the current policy, licences are issued freely subject only to physical constraints like limitation of spectrum.[15] In principle, If the number of proposals (or licence applications) meeting the relevant licensing criteria exceeds the maximum number of licences, which may be accommodated due to physical or other constraints such as limits of radio frequencies or numbers, the proposals which meet the licensing criteria will be subject to a section exercise. The proposals meeting the licensing criteria will be ranked in the order of merit and the OFTA will invite the parties who have submitted the top-ranking proposals to apply for a licence as far as the physical or other constraints permit.

In other words, the number of licensees are in principle decided by the markets if there are no constraints and the applicants fulfil the minimum licensing criteria or requirements. But, the OFTA is not responsible for whether the companies will be profitable or not, although they may allow consolidation of companies, when requested.

INDIA

The TRAI is empowered to fix the number of operators for each service. While the policy of the Government is to encourage competition, licences are issued to all the applicants provided they meet the minimum entry qualification. However, for mobile services, the number of operators is restricted due to spectrum constraint.

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13 Refer to more detailed period of validity in each type of licence.

14 European Council Directive (96/C 90/05), p.877.

15 Carrie Yau, Secretary for Information Technology and Broadcasting (ITBB), Speech at the Symposium on Digital Broadcasting and Convergence on February 15, 2001, in Hong Kong.

Q14. How to balance between number of licensees and promotion of competition?

HONG KONG

Obtaining licence(s) especially in mobile communications is used to be regarded as a great asset in companies. However, this recognition seems to be diluted in the very competitive telecommunication markets with numerous licensees or operators. Thus, some companies raise a need to limit the number of licensees to have fair return on investments. Nevertheless, countries or places like Hong Kong where liberalization or privatization is well in place, the balance may be required not by regulators but by markets – possibly even by consolidation of companies concerned.

The OFTA in principle does not impose any artificial barriers through which companies enter into the specific markets through allowing market decides the number of licensees, no foreign ownership restrictions, and technology-neutral.

INDIA

In India, such physical constraints as spectrum is the only restriction imposed by the Government. Otherwise, most of the services are open to all provided they comply minimum entry criteria.

Q15. How to monitor the licensees, if any ?

HONG KONG

In case of private system, it is too much resources required to carry on regulatory monitoring. It is normally based on complaints requested by consumers and/or competitors such cases as harmful interference.

In case of public system, the OFTA carries out detecting or monitoring public media for general trends of markets – i.e., behaviors of industries, requires licensees to provide them with statistics on a regular base such as market shares, and reply complaints and feed-backs from operators and/or consumers.

INDIA

TRAI Act empowers the TRAI to monitor the licensees. The service providers are required to furnish their performance reports to the TRAI on a quarterly basis in a prescribed format. The main functions of TRAI include: e.g.,

- Ensure competence of terms and conditions of licensees.
- Recommend revocation of licensee for non-compliance of terms and conditions
- Protect the interest of consumers of telecommunication services.

- Monitor the quality of service and conduct the periodical survey of such service provided by the service providers and
- Ensure effective compliance of universal service obligations.

Q16. How to deal with if the licensees breach the licensing terms and conditions?

HONG KONG

In accordance with the Telecommunication Ordinance, the OFTA can impose on financial penalties in a range of HK$20,000 to HK$100,000 and to imprisonment for a range of 1 to 5 years, if the licensee(s) breach the relevant licensing *terms and conditions,* which should be satisfied by the licensees after obtaining the relevant licences on an on-going base. Furthermore, the OFTA can revoke the licence, if necessary, although it is hardly in practice.

INDIA

Under Section11 of the TRAI Act, the TRAI shall recommend the DoT for revocation of license or impose financial penalty for breach of license conditions.

Q17. How to make information – i.e., licensing – available to publics?

HONG KONG

One of requirement in accordance with Reference Paper of GATS/WTO is make information available to publics. The main principles of such requirement are ***transparent procedure, criteria for approval or rejection, and reasonable procedural time or period*** relating to licensing.

To meet these principles, the OFTA utilize a various means:

- Various forms of leaflets;
- Guidance notes, which became a statutory requirement of the OFTA to publicize in accordance with the amended Telecommunication Ordinance. Some of guidance notes are now available through its website (www.ofta.gov.hk);
- If it is relating to laws, it can be also announced or published in Gazette (i.e., public official notice);
- Should it be required for important decision, it can be also released to public media.

INDIA

The TRAI Act stipulates that the Authority shall ensure transparency while exercising its powers and discharging its functions. In the light of this legal obligation, the TRAI has resolved to adopt the methodology of transparent, open consultation with the service providers, incumbent, consumers, institutions, associations and other concerned agencies before framing any regulation or notifying tariffs. The TRAI not only emphasizes transparency but also participation of all interested parties in its decision making process. The TRAI and DoT publish all the material on its website and call for the comments from public.

Q18. How will the licences or licensing be integrated in the emerging convergence of technologies, services, or even institutions of information and communications ?

HONG KONG

The convergence led by technologies – e.g., digital technology *inter alia* - of broadcasting, telecommunications and information (i.e., computers) has been paid lots of attention at not only technological aspects but at policy, regulatory, legal and even institutional aspects in Hong Kong.

In terms of *institutional* convergence, the Information Technology and Broadcasting Bureau (i.e., policy-maker) was established in 1998 to ensure that policies and regulations keep abreast with technological developments and changing market demands [16] in broadcasting, telecommunications and information technologies covering computers with appropriate divisions: e.g., 2 divisions dealing with IT, 1 division for telecommunication, 1 division for broadcasting, and 1 division for film. However, the existing regulatory authorities – i.e., Office of Telecommunications Authority (OFTA) and Broadcasting Authority (BA) – remain with amendments of their roles reflecting technological convergence in the Telecommunications Ordinance. In accordance with the Telecommunications (Amendment) Ordinance, the OFTA is responsible for all the transmission networks for broadcasting, telecommunications and information technologies, whilst the BA is for contents of broadcasting and the Television and Entertainment Licensing Authority (TELA) for contents of information technologies like Internets. Whether to keep these regulators separated or merged remains to be seen in Hong Kong, while Malaysia has already merged its regulatory functions into one single Commission and the UK is under the review of its 5 different regulators[17] issued by the White Paper.

In recognition of the trend of convergence at both the *technological and service* levels, moreover, the policy decision has been made to remove restrictions on the services which different types of transmission networks may carry. Namely, subject to the appropriate licensing requirements, the transmission networks will not be artificially restrained in their capability to carry broadcasting, telecommunications or multimedia services. This policy decision is expected to encourage optimal utilization of telecommunication infrastructure to meet the ever increasing demand for transmission capacities.[18]

Such convergence has been also reflected in *legal legislations* too: i.e., Both the Telecommunications Ordinance and Broadcasting Ordinances have been amended and passed in the Legislative Council in 2000. Most of the amended provisions are already or due to be enacted in April 2001.[19]

INDIA

The convergence of technologies and services is not exceptional in India especially in the advent of Internet and e-commerce. In this regard, the Information Technology Act in 2000 came into

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16 Carrie Yau, Secretary for Information Technology and Broadcasting (ITBB), Speech at the Symposium on Digital Broadcasting and Convergence on February 15, 2001, in Hong Kong.

17 Robin Foster, Director, Independent Television Commission (UK), Speech at the Symposium on Digital Broadcasting and Convergence on February 15, 2001, in Hong Kong.

18 Carrie Yau, *op.cit.*

19 Refer to the module of Information & Communications Technologies Laws for more detailed analyses.

force on October 17, 2000,[20] which covers such issues as digital signature and certifying authority in the advent of Internet and e-commerce. Also, the drafted Convergence Bill is expected to be passed soon. Whilst, institutional convergence was taken place through converging Ministries of Information Technology and Telecommunications under the Ministry of IT and Communications, as well.

In the process of regulating convergence, it is important to follow the basic guidelines: e.g.,

- Fair with consistent rules for all providers
- Transparent with decisions fully explained.
- Accountable with appropriate means of redress available.
- Informed by technical and industrial expertise.
- Coherent without a plethora of bodies duplicating responsibilities.

A Committee consisting of legal experts and those involved in the Industry is also evaluating the various laws to make a suggestion as to the regulatory and governing mechanism in the converged scenario.

Q19. Should the contents be regulated?

It is a long argued debate over years especially between freedoms of expression vz. contents over obscenity particularly including child pornography on the Internet beyond any one territory or country. In history or by nature, the major issues over contents between broadcasting and Internet are different: i.e., the former is in general being provided into homes where open publics including children can be exposed, whilst the latter is limited to the closed groups based on choices of users with more privacy.

Here, the former has been in tradition regulated for public interest and protection of culture, languages and so forth. Whilst, the latter has been developed ever fast in non-regulated markets. Although there are growing concerns and awareness over Internet contents, they are yet treated as same as those in other media like newspapers and magazines under the existing law such as the Law of Obscenity in case of Hong Kong.

Taking into account the different nature, expertise required, as well as historical and cultural tradition between broadcasting and Internet, the content issues are not currently dealt with by one single or converged regulator but by different regulatory authorities - e.g., BA and TELA – although the trends of convergence still remains to be seen as discussed in earlier part.

Q20. How to reflect interests or voices of industries and consumers in licensing ?

In such areas as 3G and computer related crime, Hong Kong Governments undertake public consultation procedures in order to accommodate various interests or voices of industries, consumers, and any other interested parties. There are also various channels through consumer council, consumer department within the OFTA, and even ombudsmen.

In India as well, the TRAI and DoT initiate consultation processes with Industry Association and consumer organization to address their concern in licensing.

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[20] The Ministry of Information Technology, *IT Act,* October 2000, India.

Q21. What are the lessons or experience learned from licensing, especially in the process of or transition to liberalization or privatization in the ICT sectors ?

HONG KONG

Hong Kong has made an early start on liberalization of the telecommunication and broadcasting markets. This policy has led to new investments worth more than US$1.67 billion in the telecommunication market in the year of 2000 alone. The core objective is to ensure that consumers have access to the widest range of services at competitive prices through the creation of an environment, which is conducive to continued investment and technological innovation[21] in level-playing competitive markets.

Licensing has also been utilized as a critical means of developing ***infrastructure*** in Hong Kong. For instance, Hong Kong did not have sufficient bandwidth for international services. Opening up markets – i.e., opening up licences – with free of licence fees in principle only based on cost-recovery, they expect to increase its bandwidth from 4 Gigabits in 1999 to over 1,000 Gigabits in 2002. In a similar manner, Hong Kong introduces 3G licensing to build up lack of infrastructure for new technologies and services to be introduced in its markets.

Another way to handle such transition is to regulate the incumbent operators through, but not limited to:

- Tariff regulation;
- Transparent and non-discriminatory interconnection based on reasonable costs;
- Fair access through assigning numbers and allowing number portability;
- Access to critical facilities such as ducks subject to sharing;
- Unbundling local loops;
- Fair competition through prohibiting the dominant carriers from anti-competitive behavior[22]

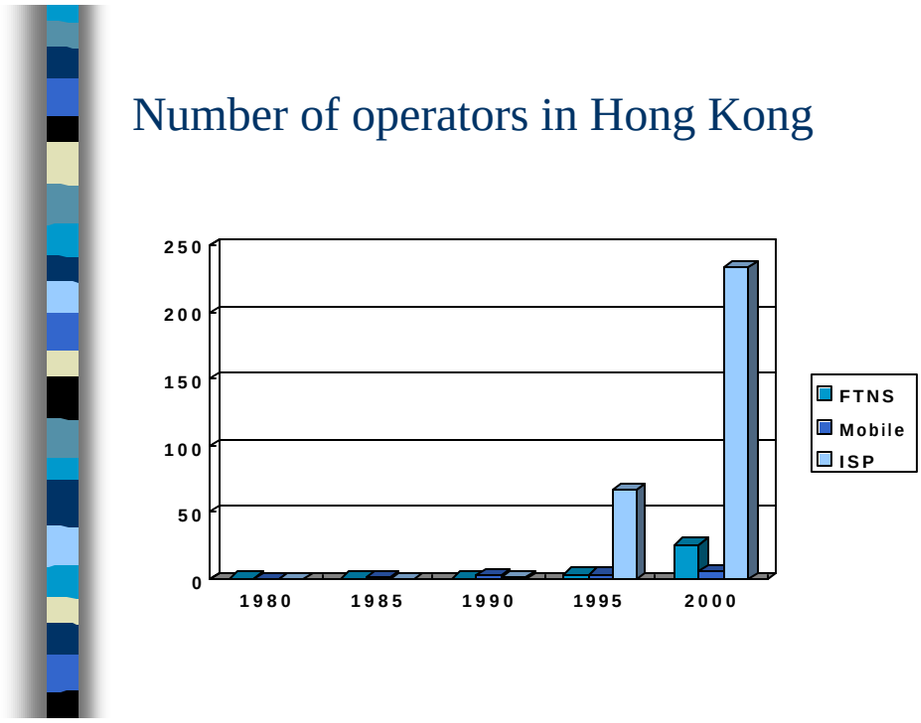
These regulatory frameworks may not be applicable to new entrants for their better market access and sharing especially in early stages.

Owing to such open and privatized market policy, there are currently various licensing categories and types with numerous operators as illustrated in Figure 1: e.g., as for FTNS, it was only one in 1980 and increased to 26 in 2000; as for mobile, zero to 6; and as for ISP, zero to 234 respectively. This leads heavy workloads imposed upon limited officials within regulatory authority. The OFTA, therefore, tries to streamline licences and their procedures especially in case of public services through ensuring fair competition and public interests. In a longer run, class licences are expected to be introduced as a part of the policy on streamline. For instance, on-licensing application is being introduced especially in case of private system licences for efficient use of manpower, although this technique still required improvement.

Figure 1

21 Carrie Yau, *Op.cit.*

22 Refer to 'Competition Safeguard" module for more details.



INDIA

In pursuance of its economic reforms, the Government announced in 1994 National Telecommunication Policy envisaging:

- Availability of telephone on demand,
- Provision of world class services at reasonable price
- Ensuring India's emergence as major manufacturing/export base of telecommunication equipment
- Universal availability of basic telecommunication service to all villages.

The procedure followed by the Government in privatizing regime for allowing more licensees or new entrants, as illustrated in Table 3, was in line with that of competitive bidding by open tender.

Table 3. Number of licensees in India (2001)

Name of the Circles	No. of Licensees	Name of the Circles	No. of Licensees
Rajasthan	2	Haryana	2
UP (East)	2	UP (West)	2
Madhya Pradesh	2	Gujarat	2
Maharashtra	2	Kerala	2
North East	2	Karnataka	2
Andhra Pradesh	2	Bihar	2

Orissa	2	Punjab	2
Tamil Nadu	2	Himachal Pradesh	2
Assam	1	West Bengal	1
Delhi	2	Chennai	2
Mumbai	2	Calcutta	2

In most of the cases, licences were secured by bidders quoting unrealistically high license fees. Many successful bidders were unable to obtain financial support to commence operation. This situation has led the Government to review the National Telecommunication Policy (NTP) and changing the licensing conditions. As a result NTP 1999 came into existence whereby the Government shifted from fixed licence agreement of the existing operators.

Whilst, revenue sharing arrangement offers advantage of increasing licence fees based on increasing numbers of subscribers apart from providing an element of certainty in revenue collections for the licensor.