Overview of Mobile Spectrum Assignment and Licensing Obligations in Thailand

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ABSTRACT

In Thailand, the National Broadcasting and Telecommunications Commission (NBTC) plays a key role in managing the spectrum for telecommunications service and regulating the telecommunications business in Thailand. The licensing policy of mobile service outlines a vision to “develop the telecommunications business, minimize the gap in access to information technology, enhance the country’s competitiveness and upgrade Thai people’s quality of life.” The NBTC has established a policy on spectrum management and use of spectrum which are national communications resources, considering the utmost public benefits at national and local levels in education, culture, State security and other public interests including fair and free competition, as well as the procedures that will ensure thorough and appropriate distribution of benefits to various services and in line with State policy for the development of digital economy. The objective of this paper is to present regulatory background for mobile spectrum assignment and licensing obligations in Thailand.

Keywords: Mobile, Assignment, Spectrum, Thailand

I. INTRODUCTION

ICT and telecommunications are generally seen as facilitators of growth, especially in terms of labor and multifactor productivity, increased competitiveness and cost reduction across the whole economy. The development of ICT services has also had a dramatic effect on consumer behavior in Thailand, as well as delivering important social benefits.

Basically, having supportive regulatory policy will be a major factor in narrowing the digital divide and lifting the country's competitiveness. Based on the Measuring the Information Society Report 2015 (MIS report 2015) [1], Thailand is ranked 74th out of 167 countries this year, up from 81st last year. NBTC strongly believes the IDI ranking for Thailand will improve to 60th by 2017, based on the fact that the 3G and 4G mobile networks roll-out resulted in a significant improvement in the ranking, to 81st in 2014 from 92nd in 2010 [2]. The target of the NBTC is that Thailand's IDI ranking will be No.1 in ASEAN by 2020. The ITU MIS report 2015 identified Thailand as one of a group of "most dynamic countries" that recorded above-average improvements in their IDI ranking over the past five years. This means that Thailand was the most dynamic country in Asia-Pacific, showing the greatest change in IDI ranking in the region, supported mainly by improvement in wireless broadband penetration. The IDI not only reflected development of Thailand’s
infrastructure and ICT use but also represented a right direction of Thailand’s telecom regulatory policies. To highlight the importance of telecommunications policy, this paper describes regulatory background for mobile spectrum assignment and licensing obligations in the context of ensuring that NBTC policy and regulation-in respect of spectrum and other key inputs to the mobile market-supports the further development of mobile broadband services. This paper organizes the content as follows. Section II explains policy of the spectrum management. Section III describes the telecommunications master plan. Importance regulatory issues are presented in Section IV. The conclusion is the last section.

II. POLICY OF THE SPECTRUM MANAGEMENT


The Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services, prescribes that the permission to use radio frequency for telecommunications service shall be carried out with due regard to maximum public interests at the national, regional and local levels in education, culture, State security and other public interests, including free and fair competition, and shall be carried out in the manner that extensively and appropriately distributing the utilities as the national communications resource to all segments of enterprises for public interest.

Therefore, it is very clear that the policy objectives of spectrum assignment are based on the principle of public interest together with free and fair competition. The NBTC thus set policy objectives for the spectrum auction for telecommunications service in Thailand with the priority as follows [5]:

1) Efficiency of spectrum assignment thereby creating the utmost benefits to the public;
2) Promoting competition in the market with the aim to improve quality of service and reduce costs of services thereby benefiting people at large;
3) Transparency in the spectrum auction which include the auction design and the auction implementation thereby creating common understanding among all stakeholders and the mutual acceptance of the auction results;
4) Development of telecommunications industry in Thailand including the development of infrastructure and services thereby improving capability in supporting the increasing demands in the future;
5) Revenue to State, the revenue arising from the auction should be appropriated for the State benefit.

In granting the spectrum license for telecommunications service, the NBTC strives to achieve the regulatory balance composing of three equally important principles in order to bring about the greatest benefits to the people and the country. These principles are:

1) The most efficiency of spectrum assignment. Since the spectrum is a national communications resource, the assignment process must ensure that the spectrum will be assigned to the person who can best utilize it,
whereby the most efficient spectrum assignment method is the auction. Furthermore, the spectrum assignment must also be able to catch up with the usage demand from both operators and end users;

2) Free and fair competition. The regulation must help creating the regulatory environment that is conducive for market entry and have appropriate competition measures in place to prevent the abuse of market power. The regulation must also be proportionate and not place undue burden to the licensee;

3) State benefits that reflect the value of the resource. The State benefits come in the form of revenues from the spectrum auction and business operation taxes, as well as the socioeconomic benefits and the development brought about by the spectrum utilization.

III. THE TELECOMMUNICATIONS MASTER PLAN No. 1, B.E. 2555-2559 (2012-2016)

The Telecommunications Master Plan, B.E. 2555-2559 (2012-2016) highlights the public’s equal, pervasive and reasonably priced access to diverse telecommunications services through modernized networks on a fair competition basis and with efficient use of telecommunications resources as the core network to support the national development into an intellectual and creative society, with a view to narrowing the rural-urban disparities, continuously enhancing the country’s competitiveness in terms of telecommunications infrastructure, as well as developing efficient consumer protection measures. The Master Plan has been outlined in six aspects as follows [4],[5]:

(1) Development and Promotion of Free and Fair Competition

Monitoring and ensuring fair business operations in all markets where a monopoly or a reduction or restriction of competition is prevalent, at both national and local levels; and preventing the major operators or the operators with significant market power from abusing their market powers or any single one or group of them from manipulating or distorting market mechanism which could relatively lead to inefficient competition, so as to ensure fair competition and people’s access to telecommunications services on a fair and reasonably-priced basis.

(2) Spectrum Licensing and Business Operation Licensing

Allowing the licensed operators to operate telecommunications services on a free and fair competition basis; encouraging the deployment of modern technologies based on technological neutrality; and coordinating with concerned authorities in the formulation of licensing rules, guidelines and conditions for satellite communication services, in order to promote competition and diversification of telecommunications and broadband services.

(3) Efficient Resources Utilization

Ensuring the management and approval of efficient telecommunications resources utilization; encouraging infrastructure sharing for the utmost benefit at national and local levels in education, public health, culture, State security and other public interests such as in the case of emergency or disaster breaks out, with due regard to the proper, necessary and sufficient utilization, the technological advancement, as well as the
encouragement of an optimized utilization of telecommunications, radiocommunications and communication satellite resources for the utmost benefit and in conformity with international practices and obligations.

(4) Universal Basic Telecommunications Services

Implementing measures to promote operators to make available the universal basic telecommunications services in the target areas; encouraging the provision of basic telecommunications services to the underprivileged in accordance with the plan on universal basic telecommunications services and social services to ensure the access to quality services at a reasonable price; fostering the provision of telecommunications services for social development and quality of life improvement; and promoting the capacity enhancement of telecommunications device and service industry for the disabled and the underprivileged in the society.

(5) Consumer Protection

Enhancing the awareness among consumers of their basic rights in telecommunications service, benefits from consuming various types of telecommunications services, needs to keep abreast of technological advancement to ensure their efficient use of services, understanding of their right and freedom in consuming telecommunications services, and efficient access to complaint channels; and devising measures to step up roles of the operators in providing services in an ethical manner and with responsibility for consumers and the society.

(6) Preparedness for and Entry into the ASEAN Economic Community (AEC) and Promotion of International Cooperation

Fostering the enhancement of Thailand’s potential and readiness for the forthcoming AEC membership in 2015 by developing telecommunications cooperation and linking of infrastructure, rules and regulations, industry sector, researchers and developers, regulating agencies, and the public; and promoting international cooperation under various frameworks at bilateral and multilateral levels with due regard to the national interests.

IV. IMPORTANT REGULATORY ISSUES

1. Telecommunications Numbers Management, and Mobile Number Portability and Record of Prepaid Mobile Phone Service’s Users

The NBTC has a policy to allocate telecommunications numbers efficiently and sufficiently for the operators’ service provision and network expansion. It recognizes the importance of an allocation of numbers for public services, businesses and for national security, as well as for supporting the emergency or disasters. It has therefore devised a telecommunications numbering plan and the criteria for allocation of telecommunications numbers that is in line with the policy on telecommunications resource management. This means that the allocation, supervision, administration and use of telecommunications numbers, which are
telecommunications resources, are undertaken in an efficient and fair manner and sufficient for the supply of services on the basis of free and fair competition including protection of service users.

The NBTC’s current telecommunications numbering plan is designed to cater for the long-term number demand and support future service provision employing innovative technologies. The plan provides various types of telecommunications numbers to support services provided by operators which include fixed line number, mobile number, VoIP number, premium service number, technical number as well as short code number. In addition, the NBTC has been managing the telecommunications number allocation according to the NBTC’s Notification regarding the Criteria for Allocation and Management of Telecommunications Numbers, which details the basic principles of telecommunications number management and allocation with a clear and efficient process, including inter alia: guidelines on telecommunications number planning; application procedures for allocation of telecommunications numbers; procedures and criteria for allocation of telecommunications numbers; rights and duties of holder of allocated numbers and regulating guidelines. Besides, the holders of allocated numbers are duty-bound to pay fee for the telecommunications numbers at the rate specified in the Notification.

The other important duty of the NBTC regarding mobile numbers management that gain interest from the public is the regulation of mobile number portability. This operation is under the NBTC’s Notification Regarding the Criteria for Mobile number Portability which outlines rules and guidelines for porting mobile number to another network provider while retaining their existing mobile numbers. Such number portability not only benefits the users, but also promotes competition in telecommunications services, improves service quality in order to retain the customers as well as supports the optimum utilization of numbers. The Notification also prescribes an investment in a Clearing House for data collection through a consortium of the mobile service providers, with the investment proportion to be specified.

The NBTC has set forth a rule regarding the record of prepaid mobile phone service’s users (prepaid SIM card) under the NBTC’s Notification regarding the Criteria for Allocation and Management of Telecommunications Numbers. The NBTC has also determines a guideline on the registration of prepaid mobile phone service’s users (prepaid SIM card) to be complied by all mobile operators in order to protect the right of mobile phone users as well as to protect the society and national security. Moreover, there is a requirement that, for new numbers, the mobile operators must register the users’ SIM card prior to SIM activation.

2. Telecommunications Network Interconnection

In 2013 the NBTC issued the Notification Regarding Telecommunications Network Access and Interconnection B.E. 2556 prescribing criteria and procedures for network interconnection. The Notification requires that a licensee who owns network must allow other licensees to interconnect with its network on a fair, reasonable and non-discriminatory basis [6].

The Notification also requires the licensee who owns network to develop and submit the Reference Interconnection offer together with supporting document that prescribes principle and method for calculating
interconnection charge. Such interconnection charge must be cost-oriented and calculate on long run incremental cost basis. The charge for necessary facilities for interconnection must also be cost-oriented. The NBTC, however, may impose a certain calculation method and appropriate reference interconnection charge for certain interconnection services.

In addition, this Notification also provides guidelines for contractual arrangements as well as dispute resolution procedure in the case where there is any refusal of network interconnection or access for which the petition should be submitted within one year as from the date of the refusal or the date the dispute regarding network interconnection or access arises. During the dispute settlement process, the NBTC may order temporary access or interconnection following conditions in the existing contract, conditions in the same type of contract or use the calculation method for interconnection charge that the NBTC sees appropriate. In this regard, the NBTC has issued the Notification Regarding Standard Method for Calculating Interconnection Charges B.E. 2556 (2013) to be the calculation standard for the transparency.

Furthermore, in year 2014 the NBTC has issued the Notification Regarding the Reference Interconnection Charges B.E. 2557 (2014) which applies the calculation method according to the Notification regarding the standard method for Calculating Interconnection Charges mentioned-above. The purpose of this Notification is to set fair regulatory guideline and fair interconnection charge for telecommunications service users where an agreement regarding the charges cannot be reached among the licensees, where there is a dispute regarding the charge or where temporary charge is required.

3. Telecommunications Network Access

The NBTC’s Notification Regarding Telecommunications Network Access and Interconnection B.E. 2556 also prescribes criteria and procedures for network access. The Notification requires that a licensee who owns network must allow other licensees to access to its network on a fair, reasonable and non-discriminatory basis [7].

The Notification also requires the licensee who owns network to develop and submit the Reference Access offer together with supporting document that prescribes principle and method for calculating access charge. Operators are permitted to determine the access rate among themselves via commercial negotiations on a fair, reasonable and non-discriminatory basis. The NBTC, however, may impose a certain calculation method and appropriate reference interconnection charge for certain interconnection services.

In addition, this Notification also provides guidelines for contractual arrangements as well as dispute resolution procedure in the case where there is any refusal of network interconnection or access for which the petition should be submitted within one year as from the date of the refusal or the date the dispute regarding network interconnection or access arises. During the dispute settlement process, the NBTC may order temporary access or interconnection following conditions in the existing contract, conditions in the same type of contract or as the NBTC sees appropriate.
4. Infrastructure Sharing for Mobile Network

In order to promote free and fair competition and to bring the quality and efficient service to the consumers, the NBTC has prescribed the Notification Regarding Infrastructure Sharing for Mobile Network B.E. 2556 (2013) which requires the licensee (Type III and the mobile operators under concessions) to permit other licensees to share its own infrastructure for mobile network [8]. The Infrastructure sharing includes tower and mast, base station area, transmission network between base station and base station controller. In sharing its own network, the licensees must treat other licensees on a fair, reasonable and non-discriminatory basis and the infrastructure sharing charge can be determined among licensees on a fair, reasonable and nondiscriminatory basis. In addition, this Notification has also prescribed criteria and procedures for contract negotiation and dispute resolution where an agreement cannot be reached among the licensees.

5. Domestic Mobile Roaming Services

The NBTC has prescribed the Notification Regarding Domestic Mobile Roaming Services to promote free and fair competition and to enable nationwide service to consumers. This Notification requires the licensees (Type III mobile operators and mobile operators under concessions) to allow other mobile operators to roam on its own network except the licensee network is non-interoperable with the raomer’s network due to different standard and technology employed. Furthermore, the licensee must treat other licensees on a fair, reasonable, and nondiscriminatory basis and the domestic mobile roaming charge can be determined among the licensees on a fair, reasonable, and nondiscriminatory basis as well as must be reasonable comparing with the retail rate paid by its customers. In addition, this Notification has also prescribed criteria and procedures for contract negotiation and dispute resolution where an agreement cannot be reached among the licensees.

6. Mobile Virtual Network Service

The NBTC has prescribed the Notification Regarding Mobile Virtual Networks Service B.E. 2556 (2013) to promote free and fair competition as well as to promote market entry for small entrant in order to escalate mobile service competition and provide service alternatives to customers [9]. The Notification requires the licensee (Type III mobile operators and mobile operators under concessions) who is a wholeseller to treat Mobile Network Operators (MVNOs) on a fair, reasonable and non-discriminatory basis and charge can be determined by the agreement between the wholeseller and MVNOs on a fair, reasonable, and nondiscriminatory basis as well as must be reasonable comparing with the retail rate paid by the wholeseller’s customers. In addition, this Notification has also prescribed criteria and procedures for contract negotiation and dispute resolution where an agreement can not be reached among the licensees.


The NBTC implements two types of competition regulation-the ex-ante and ex-post regulation. Ex-post regulation is governed by the NTC Notification on Measures to Prevent Monopolistic and Unfair Competition Practices in Telecommunications Business B.E. 2549 (2006), which aims to ensure free and fair competition
among telecommunications service providers and to promote and support competition in and development of the telecommunications industry in an efficient and sustainable manner [10]. The Notification prohibits operators who have been deemed to have Significant Market Power (SMP) from carrying out certain anti-competitive practices such as service subsidization and cross service subsidization for the service or the business under competition in the market, acquisition of business of the same service type; and any conduct deemed as abuse of market power in the manner of monopoly, or reduction or restriction of competition. The Notification also institutes a process of inquiry dealing with the licensee who acts or behaves in such manner, as a standard of practice for the NBTC.

For the ex-ante regulation, in 2014 the NBTC issued two key notifications. The first is the NBTC Notification on Market Definition and Relevant Markets in Telecommunications B.E. 2557 (2014), and the second is the NBTC Notification on Criteria and Procedures for Identifying Operators with Significant Market Power in Telecommunications Business B.E. 2557 (2014). According to these Notifications, the Office of the NBTC must prepare a report on analysis of the level of competition in the relevant markets and propose a list of operators with SMP in each relevant market for the NBTC’s consideration. This will be used as a basis for outlining measures for the supervision of anti-competitive behaviors in telecommunications market in alignment with the above-mentioned Notification, and also for formulating a guideline to prevent the operators with SMP from abusing their market power to restrict or hinder free competition in the market.

The NBTC additionally issued the Notification Regarding Criteria and Procedure for Accounting Separation in Telecommunications Business as a tool to support the implementation of measures for the prevention of monopoly or unfair competition in telecommunications business. Under the Notification, the operators with SMP are required to undertake accounting separation for the NBTC’s analysis. This aims to:

- Identify the anti-competitive behaviors such as predatory pricing, margin squeeze, etc.
- Identify the discriminatory behaviors such as cross subsidization, a case in which the operators with SMP set an overly high price in a market where they have powers and use the received profit for cross subsidization in another market where they are inferior to their rivals; And
- Be a basis for determining the cost-based wholesaling and retailing rates without excessive return/profit.

8. Universal Basic Telecommunications and Social Services

Telecommunications plays an important role in people communication and also in promoting capability development in other sectors such as manufacturing sector, trade and commerce sector as well as public and private service sectors. Therefore, the distribution of Universal Basic Telecommunications and Social Services will minimize the gap in communication and technology access which will improve the quality of life of the people in remote areas and bring about the equality and fairness in standard of living for all citizens both in the city and the remote areas. This will finally affects the national competitiveness level.
With all reasons mentioned above, the Telecommunications Master Plan B.E. 2555-2559 (2012-2016) aims to adopt measures to encourage operators in providing basic telecommunications services universally [11], promote the provision of basic telecommunications services to the underprivileged in accordance with the Universal Basic Telecommunications Services and Social Services Plan to ensure the access to quality telecommunications service at a reasonable tariff, to foster the provision of telecommunications service for social development and quality of life improvement as well as to improve the capability of telecommunications device manufacturing and telecommunications service for the disabled and the underprivileged.

In 2012, the NBTC has issued the NBTC’s Notification Regarding Plan on Universal Basic Telecommunications Services and Social Services (B.E. 2555-2559) (2012-2016) aiming to promote and encourage nationwide distribution of wireline and wireless telecommunications network as well as to provide opportunity and develop capability in internet access for the underprivileged, the disabled, children, and senior citizens which will improve quality of life and the overall national competitiveness level. Subsequently, the NBTC has issued the NBTC’s Notification Regarding the Criteria and Procedure for Revenue Collection to Fund the Provision of Universal Basic Telecommunications Services and Social Services which prescribes the criteria and procedure for revenue collection from telecommunications service licensees for contribution to the Broadcasting and Telecommunications Research and Development Fund for the Public Interest [12]. This is in order to secure funding for the implementation of the said Plan on Universal Basic Telecommunications Services and Social Services. The basic telecommunications services selected to be offered are telephone service and high speed internet service with no limitation of technology employed and the applications which include terminal equipment, software or other necessary peripherals. The goal is also include promotion and improvement of knowledge and skill which will benefit to the public for the appropriated and efficient access to the basic telecommunications services. Moreover, the licensees with their own network are required to annually contribute to the Fund at the amount of 3.75% per year of their net income from their telecommunications services as defined in the said notification.

It is expected that, after the successful implementation according to the Universal Basic Telecommunications and Social Services Plan (B.E.2012-2016), the personal telephone penetration rate will be at least 95% of Thai population and the high speed internet penetration rate will be at least 80% of Thai population. Also, there will be internet community center, internet service in school, internet service in community hospital as well as internet service center for target groups nationwide and telecommunications system for the disabled to access to information as others.

9. Current Spectrum Assignment for Telecommunication Services in Thailand

Section 46 of the Organization Act states that a spectrum license for telecommunications business is the exclusive rights and is not transferable. The licensee who has been authorized to use spectrum shall carry out the services by himself or herself. Also, business management either in whole or in part shall not be rendered or permitted to other to act on his/her behalf.

In addition, Section 47 of the Organization Act stipulates that for any licensee who has been authorized to use spectrum for telecommunications services that has not carried out the business by using such spectrum within period specified by the NBTC, or by using such spectrum in other services not relating to its objectives, or fails to comply with the business operation conditions, or conducts any prohibitive acts as specified in Section 27 (11) or fails to comply with the provision of Section 46, the NBTC shall take action to rectify the situation or issue an order to revoke the spectrum license in whole or in part.

V. CONCLUSION

In granting the spectrum license for telecommunications service, in granting the spectrum license for telecommunications service, NBTC, an independent telecom regulator, strives to achieve the regulatory balance composing of three equally important principles in order to bring about the greatest benefits to the people and the country. These principles are (1) The most efficiency of spectrum assignment, (2) Free and fair competition, and (3) State benefits. In relation to spectrum management, national governance arrangements do differ in different countries, however it is a common practice that the remit of many independent communications regulators around the world includes responsibility for spectrum management. Spectrum management is typically taken to include the assignment of new licenses, operating under policy guidance from the national government. An independent regulator is also responsible for implementing market based approaches to spectrum assignment, which are appropriate when new spectrum licenses are being awarded, and in particularly where demand for licenses exceeds supply.

VI. REFERENCES


