



The National Broadcasting
and Telecommunications Commission

Annual Report 2013

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Communications are an essential factor in national development, prosperity and security, with regard to the continuously changing situations in the world, prompt communications are highly important. All parties and all agencies related to national communications should therefore cooperate with one another and share they should research deeply and widely effective parts and apply them wisely and proactively in the way that suits the status and condition of our country in order that national communications in the way that suits the status and condition of our country in order that national communications can improve to the fullest and perfectly facilitate the economic and social development as well as the stability of the nation.

Chitralada Villa
15 July 1983

(The Royal Proclamation was bestowed on the occasion of the centennial of the Post and Telegraph Department and the National Communications Day on 4 August 1983)





► Preface ►

Section 76 of The Act on Organization to Assign Radio Frequency Spectrum and to Regulate the Broadcasting Television and Telecommunications Services B.E. 2553 (2010) stipulated that the National Broadcasting and Telecommunication Commission (NBTC) must prepare an annual report on spectrum management, broadcasting services and telecommunication services, as the case may be, which shall demonstrate details of work plans and results, spectrum management, broadcasting and telecommunications business operation, and future work plans, then submit to the cabinet and the National Assembly within one hundred and twenty days as from the ending date of each calendar year, This report shall also be disclosed to the public.

The National Broadcasting and Telecommunications Commission, or NBTC, has thus prepared the Annual Report 2012 of the NBTC for submitting to the Cabinet, House of Representative and the Senate, as well as disseminating to the public, This report consists of the background of NBTC, Commissioners, and the office of the National Broadcasting and Telecommunications commission (Office of the NBTC), the mission critical during the year, major performances of the NBTC and Office of the NBTC. This Annual Report also consisted of details of market environment and competition of broadcasting and telecommunication business, as well as the expenditure annual budget, problems, obstacles and challenges on broadcasting and telecommunication business in the year 2012.

The NBTC believes that this Report will provide useful information for monitoring and investigating the performance of the NBTC in the past year, which is in accordance with the purpose of the laws.

The National Broadcasting
and Telecommunications Commission (NBTC)

March 2013





➡ Message ➡

from the Chairman of the National Broadcasting and Telecommunications Commission (NBTC)

The National Broadcasting and Telecommunications Commission (NBTC) came into existence since 2013. The NBTC staffs and management have been committed to lay the foundation on frequency assignments and to regulate the broadcasting and telecommunication businesses to benefit the country and the public by operating under the Spectrum Management Master Plan of 2011, the Broadcasting Master Plan for 2011-2016, and the Telecommunications Master Plan for 2011-2016, all in accordance with the law.

On organizational management, the NBTC was determined that the NBTC Office could achieve regional excellence, along with good governance and transparency in the management of human resources, budgeting, finance, assets and supplies. Another crucial mission is to develop the NBTC Office to be a knowledge center and a high potential organization by effectively managing people and organization and by adapting the latest technologies to be able to meet public expectations and create new regulatory standards.

For the role in spectrum management, the NBTC has drawn up the action plan under the Spectrum Management Master Plan and has integrated the frequency plan by developing the National Table of Frequency Allocations for the highest benefit with relevance to the World Radio-communication Conference 2012 (WRC-12) and Radio Regulations of 2011 of the International Telecommunication Union.





On radio and television broadcasting business, the NBTC has updated the rules and regulations to promote fair competition and to ensure consumer protection. The important mission for this year is to organize an auction for 24 commercial digital television channels. The auction earned 50,863 million baht which was earmarked for the Radio, Television and Telecommunications Research and Development Fund for public interest. Furthermore, we have supported the standardized business models for contents creation and encouraged the grouping of licensee, producers and the mass media in order that the public would be able to access the media on equal terms.

Where the telecommunications business is concerned, after 3G technology has been implemented in 2011, the NBTC announced the criteria and procedures to acquire frequencies in the 1800 MHz spectrum for the future 4G system. In addition, NBTC has prepared the basic telecommunications service and public service plan for 2011-2016, while concurrently dealing with other realistic issues such as the setting up standards for telecommunication consumer protection when the concession has ended, the fee reduction for retained numbers, the setting up of the mediation center in telecommunication business, pre-paid customer protection and the standardization of the 3G services, etc.

Meanwhile, the Radio, Television and Telecommunications Research and Development Fund for public interest has supported the free access to high speed internet with Wi-Fi technology for the nationwide public through the Ministry of Information and Communication Technology with a 950 million baht budget. This will help reduce inequality in the use of telecommunication services. The NBTC is also considered the approval for 10 research and development projects at the cost of 32.5 million baht that will support telecommunication industry development both in short and long terms along with the improvement of people's quality of life, especially for the disabled, the elder and the poor through better access to telecommunication services.

The past operations of the NBTC were aimed to support the target to uplift its potentials and the readiness to become a party of the ASEAN Economic Community (AEC) at the end of 2015, mainly by closely cooperating with fellow ASEAN regulatory bodies, and regularly participated as well as organized international conferences targeting regulatory bodies and broadcasting agencies to join in the planning and drafting policies together as a region.

On behalf of the NBTC, I dare say that I have personally witnessed the commitment of all NBTC Office staffs who were determined to drive forward broadcasting and telecommunication activities to the highest level, comparable to that of the international community and to strictly adhere to the letters of the law as they did so. I do hope that the NBTC operations will ultimately lead to improved access to telecommunications for the Thai society and people which in turn will lead to better quality of life in the long term.

Air Chief Marshal

(Thares Punsri)

Chairman of the National Broadcasting and Telecommunications Commission





► Message ►

from the Vice-Chairman of the National Broadcasting
and Telecommunications Commission (NBTC) and
Chairman of the Broadcasting Commission (BC)

In 2013, There was a significant change in Thailand's television broadcast industry on the grounds that the National Broadcasting and Telecommunications Commission (NBTC) organized the spectrum auction for digital television broadcasts at the national level on Thursday 26th to Friday 27th December, 2013, marking the first major change in Thailand television industry history since its inception 58 years ago. The expected result of this auction was to bring significant changes to Thailand's terrestrial television broadcast as it switches from analog to the digital system. This is also a new chapter for Thai consumers who would now have access to more information while the utilization of frequency spectrums would also become more efficient.

The auction of the 24 commercial digital television channels has given consumers more viewing choices. The NBTC has categorized the services into four groups: Seven licenses for General-high definition (HD); seven licenses for general-standard definition (SD); seven licenses for news & documentary; and seven licenses for children, youth and family. In the past, just six terrestrial channels were on offer.

As for the switch over to the digital system, the Broadcasting Commission (BC) has set the guideline, policy and the timeline after doing a number of collaborative researches together with various agencies, as well as joint projects with specialists from abroad in the project on the plan to switch over the television broadcast system to digital. In addition, the BC has cooperated with related agencies to trial run the digital broadcasts, after the granting of digital terrestrial broadcast licenses were considered.





Thus, the switch over to digital was the most significant development to-date where television broadcasting was concerned, and still remain a new trend among the Thai consumers. Therefore, the BC has stressed the importance of regulations and the process to standardize contents creation in terms of program quality and public relevance. Also important is the resolution of complaints regarding services, advertisements, programing and contents. As for frequency interference and illegal broadcasters, an official notification has been made to assure the public of universal and equitable services and to protect against unscrupulous broadcasters to interfere in the public's rights to access information. Seminars for service providers and consumers were also arranged as well as developing the management system to achieve effective regulatory process.

In the future, the BC has a policy to transfer broadcasting to the digital system according to the Broadcast Master Plan which involved many parties in the service business, education, public and various business sectors. The BC hopes that the policy and effective operations within this organization will create benefits for the greater progress of the broadcasting industry.

Colonel

Netee Sukonrat Ph.D.

Vice-Chairman of the National Broadcasting and Telecommunications





► Message ►

from the Vice-Chairman of the
National Broadcasting and
Telecommunications Commission
(NBTC) and Chairman of the
Telecommunications Commission
(TC)



The Telecommunications Commission (TC) has defined 2013 as the “Year of Consumer Protection in Telecommunications”. The TC has successfully carried out various tasks that have been festering for years to that effect, such as the pre-paid SIM cards problems, by setting standard minimum conditions to protect consumers. Thus, all pre-paid credits must be collectable for at least 30 days and must have a shelf life of 365 days.

Other actions included the policy to protect consumers in case of expired telecommunication concession or contract dated 2013 to avert the “dead SIM” problem, leading to the success in the mobile phone consumers on 2G system/1800 MHz being able to migrate seamlessly to new systems within one year without blackouts. The TC also has succeeded in reducing the number retention fee from 99 baht to 29 baht, and importance has been given to ensure effective mobile phone services under the 3G system by constantly testing 3G signal strength using mobile test units.

Also notable was the request to every mobile phone service provider to use the same number and method to suspend data roaming service when people travel abroad through the special number *106#, without any charges. This has helped subscribers to avoid losing a lot of money when traveling abroad. Over 70 consumers’ complaints were also expedited, while the mediation center in telecommunication business was established on 19th November 2013 – a first for Thailand and the ASEAN region.

On the development and support of free and fair competition, the TC has released the Calculation Standard of Prices and Tariffs for Telecommunication Interconnection of 2013 to improve regulatory procedure and price/tariff setting that would be fair to consumers and the public, by setting temporary rates and connections to telecommunication network in the case of 3G license at 0.45 baht as opposed to previous 1 baht per connection. This has led to the lower costs among service providers who have all agreed to peg the connection fee at 0.45 baht. On the effective utilization of telecommunication resources, the TC has announced the “Joint Telecommunication Infrastructure Sharing for Mobile Phone Network of 2013”, or the





so-called “infrastructure sharing” announcement which would allow licensees to share basic infrastructure and to promote free and fair competition in utilizing and connecting to telecommunication network using the latest in technology development.

On the thorough coverage of basic telecommunication services, the TC has announced “Overall Basic Telecommunication Services and Social Services Regulations” and has initiated telephone and internet network project by bidding in two provinces - Nong Khai and Phitsanuloke provinces. These were pilot projects which will be expanded all over the country. These are just some of the TC’s accomplishments in 2013, details of which are covered in this report.

For 2014, the TC will translate the Telecommunications Master Plan into action by fast-tracking major issues, namely, the telecommunication satellite problems, the allocation and bidding for 1800 MHz for 4G LTE (long term evolutionary) technology – an extension of the 3G technology, the study and the bidding for 900 MHz whose concession will expire in 2015, to issue the notification on allocation criteria and management of telecommunication number by improving rules on the issue for increased flexibility and effectiveness of 4G technology in the future.

Also there will be a roadmap for licensing to utilize spectrum for telecommunication businesses (Thailand: 5-Year Spectrum Roadmap) and to recall spectrum for telecommunication businesses (Reframing) to be allocated and prepare for new bidding such as the 2300 MHz for use in 4G LTE TDD (Time Division Duplex) technology, and to use 700 MHz so as to conform with neighboring countries most of whom use this frequency for telecommunication whereas Thailand use it for radio and television broadcasts. Therefore, Thailand needs to reconsider utilizing spectrum that will conform to international rules and regulations to prevent possible future conflicts with neighbors. Also on the card is to expand telephone and internet networks to be installed through bidding in another 73 provinces to provide basic telecommunication to cover all areas to improve quality of life within 2016, and to develop public participation in the areas of regulation and development of the country’s telecommunication businesses.

On behalf of the Telecommunications Commission, I would like to thank all those involved for their cooperation and support for the TC operations last year resulting in the successes as above. This cooperation has given me and everyone at TC the impetus to do even better. We all pledge that we will perform our duties with integrity and honesty to regulate and develop Thailand’s telecommunication potentials sustainably for the benefit of all Thai people.

Colonel

(Settapong Malisuwan, Ph.D.)

Vice-Chairman of the National Broadcasting and Telecommunication
Commission and Chairman of the Telecommunications Commission





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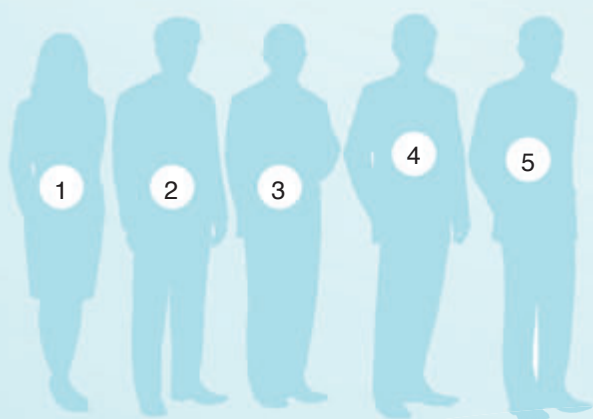
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➡ The National Broadcasting and



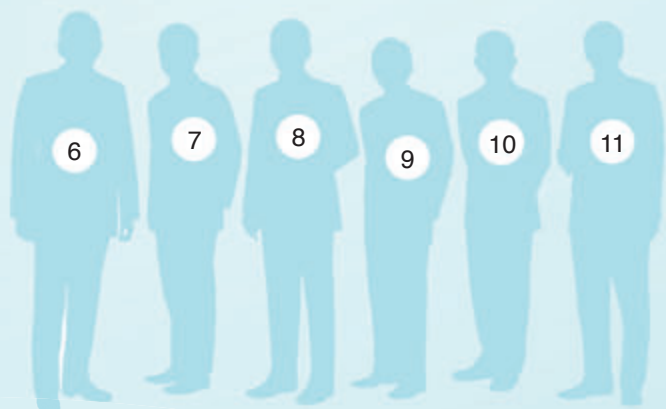
1. Miss Supinya Klangnarong
NBTC Commissioner
2. Assoc. Prof. Thawatchai Jittrapanun, Ph.D.
NBTC Commissioner
3. Pol.Col. Taweesak Ngamasanga
NBTC Commissioner
4. Lt. Gen. Perapong Manakit, Ph.D.
NBTC Commissioner
5. Colonel Natee Sukonrat, Ph.D.
Vice-Chairman of NBTC



Telecommunications Commission (NBTC) ►



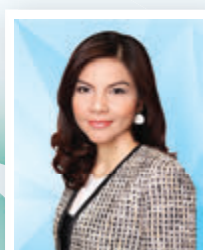
6. Air Chief Marshal Thares Punsri
Chairman of NBTC
7. Colonel Settapong Malisuwan, Ph.D.
Vice-Chairman of NBTC
8. Suthiphon Thaveechaityagarn, Ph.D.
NBTC Commissioner
9. Assoc. Prof. Prasert Silphiphat
NBTC Commissioner
10. Dr.Prawit Leesatapornwongsa, M.D.
NBTC Commissioner
11. General Sukit Khamasunthorn
NBTC Commissioner





NBTTC

Commissioners





Air Chief Marshal Thares Punsri Chairman of NBTC

Education :

- St. Gabriel College, High School
- The 6th Armed Forces Academies Preparatory school, Pre-University Education
- Bachelor of Science in Aeronautical Engineering, Royal Thai Air Force Academy (Class 13)
- Certificate, National Defence College of Thailand, Class 40
- Domestic Military Programs:
 - Squadron Officer School, Class 39
 - Air Force Academy, class 25
- International Military Programs:
 - The Joint Services Command and Staff College (JSCSC), 1982
- Certificates:
 - The Course on Corporate Governance for Director and Senior Executives of State Enterprises and Public Organizations, Class 3, Public Director Institute (PDI)
- Executive Leadership Program, Capital Market Academy, Class 10, 2010





Work Experience:

- 23th Wing Commander, 1989-1991
- Air Attache of Seoul, 1991-1994
- Director of Operation, 1997-1998
- Chief of the Air Staff, 2001-2005
- Member of the Legislative Council, 2006-2007
- Deputy Permanent Secretary of the Ministry of Defence, 2006-2008
- Chairman of the Executive Committee of the Defence Technology Institute
(Public Organization) 2009-2001





Colonel Natee Sukonrat, Ph.D. Vice-Chairman of NBTC

Education :

- Advanced Justice Administration Course for Executives, College of Justice Administration, Office of the Administrative Courts of Thailand, Class 2
- Advanced Certificate Course in Politics and Governance in Democratic Systems for Executives
- MESS/ Ph.D. in Democratic Engineering, College of Engineering, University of South Florida, USA
- Bachelor of Science in Electrical Engineering (First Class Honors, Gold Medal Award), Chulachomklao Royal Military Academy





Work Experience:

- Commissioner, the National Telecommunications Commission
- Chairman of the Committee for Spectrum Licensing for the Provision of IMT or 3G and beyond Mobile Phone Service
- Chairman of the Committee for Spectrum Licensing for the Provision of Broadband Service with BWA Technology
- Chairman of the Sub-committee on Telecommunications Master Plan
- Chairman of the Sub-committee on the Preparation and Drafting Spectrum Management Master Plan and Nation Table of Frequency Allocation
- Sub Committee on the Radio and Television Broadcasting, National Telecommunications Commission
- Chairman of the Working Group on Community Radio Broadcasting, Radio and Television Broadcasting Sub-committee
- Senior Engineering Office, Armed Forces Telecommunications Royal Thai Armed Forces Headquarters
- Acting CEO, TOT Public Company Limited
- Chairman of the CDMA2000 1X-EVDO Project Steering Committee, CAT Telecom Public Company Limited
- Board of Directors, TOT Public Company Limited
- Consultant to the IPSTAR Satellite Project
- Senior Engineering Officer, Project on Globalstar Low Earth Orbit Satellite Communications, San Diego, CA, USA

Awards

- Kiattiyod Jakdao Awards of the year 2013, Armed Forces Preparatory School Alumni Foundation
- Certificate, "The Science to Excellence", 2013, SEANATE
- Electrocommunication Persons of the year 2010, January 3, 2010, Bangkok Business Newspaper
- 60 Iconic Thais chosen by Nation Group's editors, 2009
- Outstanding Alumni of the year 2007, on the occasion of the 120th Anniversary of Phatthalung School, Phatthalung
- Vice-Chairman of the Cadet, Chulachomklao Royal Military Academy, Class 38, 2005-2006
- Outstanding Person of the year 2004, Directorate of Joint Communication, Supreme Command Headquarter
- Gold Medal for the Cadet who has the Best Result of the Class, Chulachomklao Royal Military Academy
- Certificate, Operation in Squadron Leader, Chulachomklao Royal Military Academy
- Certificate, the Cadet who has a Good Behavior, Chulachomklao Royal Military Academy
- Chairman of the Cadet, Chulachomklao Royal Military Academy, Class 38, 1989-1991





Colonel Settapong Malisuwan, Ph.D. Vice-Chairman of NBTC

Education :

- Ph.D. in Electrical Engineering (Telecommunications) Specializing in Mobile Communicating Systems, National Engineering Honor Society (Beta Pi), Florida Raton, Florida, USA
- Master of Science in Electrical Engineering in Mobile Communications System, George Washington University, Washington, D.C. USA
- Master of Science in Electrical Engineering, Georgia Institute of Technology, USA
- Bachelor of Science in Electrical Engineering (First Class Honors, Gold Medal Award), Chulachomklao Royal Military Academy
- High School, Triam Udom Suksa School





Certificates:

- Defense Resource Management Course, Awarded by International Military Education and Training (IMET) program, -Naval Postgraduate School, USA
- Streamlining Government through Outsourcing Course, Awarded by International Military
- Joint and Combined Warfighting Course, Awarded by the Ministry of Defense, National Defense University, USA
- Chief of Staff, Royal Thai Army School, Class 84
- Chief of Joint Staff, Joint Staff College Class 51

Course/Certification:

- 1988 - Airborne Training, Royal Thai Army
- 1989 - Ranger, Royal Thai Army
- 2001 - Signal Officer Basic Course, Royal Thai Army
- 2001 - Program of Intellectual Property Law and International Trade to the Role of Associate Judge, The Central Intellectual Property and International Trade Court, Class 3
- 2002 - Signal Officer Advance Course, Royal Thai Army
- 2006 - Command and General Staff, Class 84, Command and General Staff School
- 2009 - Command and General Staff, Class 51, Command and General Staff Collage
- 2008 - Defence Resource Management, by the Scholarship of International Military Education and Training (IMET) Program, Naval Postgraduate School, USA
- 2008 - Streamlining Government Through Outsourcing Course, by the Scholarship of International Military Education and Training (IMET) Program, Naval Postgraduate School, USA
- 2008 - Joint and Combined War Fighting Course, Counter Terrorism Fellowship Program, National Defence University, USA
- 2013 - Certificate of Advance Justice Administration Course for Executives, College of Justice Administration , Courts of Justice





Work Experience:

- Lecturer, Department of Electrical and Computer Engineering, Chulachomklao Royal Military Academy
- Associate Judge of Intellectual Property and International Trade Court, Class 3
- Officer in the Chief of staff, Attach to Deputy Supreme Commander, The Royal Thai Army
- Secretary to the Chairman of the Board of CAT Telecom Public Co., Ltd.
- Supervisor Board of the Operation and Project of CAT Telecom Public Co., Ltd.
- Sub-committee, Technology for Security Program Service. National Electronics Computer and Technology Center (NECTEC)
- Drafting Committee on the Telecommunications Business Licensing for Communications Satellite and Terrestrial Radiocommunications Station, Office of the National Telecommunications Commission (NTC)
- Advisor to the Committee on Information Technology and Communications, Office of the Auditor General of Thailand
- Visiting Researcher, Asian Center for Research on Remote Sensing (ACRoRS), Asian Institute of Technology (AIT)
- Expert to Consider the Project Proposal on Research and Development, Ministry of Defence
- Committee, on Frequency Refarming, Office of the NTC
- Committee on Standard Supervisory in the Telecommunications Engineering, and Multimedia Information Technology in several universities, in both public and private universities, in both public and a special lecturer in several universities,.
- Chairman of the Project to Feasibility Study the Regulation on Spectrum Management by Dynamic Spectrum Allocation for Thai Telecommunications Industry, under the support of NBTC
- Associate Professor of Business in Trident University International (TUI), USA (Accredited Internet Distance Learning University)





Editorial Board and Reviewer

- IEE Transaction on Electromagnetic Compatibility
- Journal of Engineering and Technology Research (JETR)
- Interdisciplinary Journal of Information, Knowledge, & Management
- International Journal of Applied Management and Technology
- The Electronic Journal on Information Systems in Developing Countries
- Journal of Information Technology Education
- International Journal of Emerging Discipline
- The International Journal of Education and Development Using Information and Communication Technology (IJEDICT)
- Information Science Journal
- Journal of Digital Information Management
- Journal of Information, Computer, Telecommunication and Media Management (JICTM)
- ISCIT-2001: International Symposium on Communication and Information Technology
- IsCIT-2002: International Symposium on Communication and Information Technology
- ISCAS-2003: The International Symposium on Circuits and Systems
- Rangsit Business Review: Rangsit University
- IBIMA 2005 international Conference on Information Management in Modern Enterprise, 5-7 July 2006, Lisbon Portugal
- NCEB 2005 National Conference on e-Business, Thailand
- The 5th IBIMA Conference on the internet and information technology in modern ,organizations, 13-15 Dec.2005 , Cario, Egypt.
- The 6th IBIMA Conference managing in d=formation in the digital Economy, 19-21 June 2006, Germany
- The 7th IBIMA Conference Internet & Information Systems in the Digital Age, 14-16 Dec.2006, Brescia, Italy





- The 8th IBIMA Conference Internet on Information Management in the Networked Economy, 20-22 June 2007, Dublin Ireland
- The 11th IBIMA Conference on innovation and Knowledge Management in Twin Track Economics, 4-6 in Twin Track Economics, 4-6 Jan 2009, Cairo, Egypt
- The 12th IBIMA Conference on Creating Global Economics through Innovation and Knowledge Management, 29-30 June 2009, Kuala Lumpur, Malaysia
- Suthiparithat Journal, Dhurakij Pundit University, Thailand
- The 3rd International Conference on Information Communication and Management, 12-13 October, 2013, Paris, France

And there are 105 Academic Matters.





Lt. Gen. Perapong Manakit, Ph.D. NBTC Commissioner

Education :

- B.Sc., Chulachomklao Royal Military Academy, 1978
- M.A. Social Development, NIDA 1986
- Ph.D., Sociology of Development, University of Bielefeld, Germany, 1992
- Certificate, National Defence College of Thailand, 2008
- Advanced Certificate Course in Promotion of Peaceful Society, class 2, King Prajadhipok's Institute, 2010
- Certificate, Advance Justice Administration Course for Executives, Class 18, 2013



Work Experience:

- Consultant to the Office of National Security Council, 2006-2010
- Deputy Director, Center for Psychological Operations and Public Relations in the Southern Provinces, National Security Council, 2005-2006
- Judge, Bangkok Military Court, since October 2005
- Director of information Division, Directorate of Civil Affairs
- Secretary Attach to the Standing Committee on the Military Affairs, the senate, 2000-2005
- Producer of the Radio Program on “Our Homeland”, 2001-2010
- Producer of the Radio Program on “ Rak Muang Thai” (Love Thailand), 2006-2010
- Manager of Satellite Television Division, TV5, 2004
- Special Advisor to Security Operations Command, 1997-2001
- Producer of the Radio Program on “Jai Tueng Jai” (From Heart to Heart), 1999-2001
- Performing official duties to support the Counselor to the Minister of Defence, 2001-2002
- Conducting researches for the Senate, National Security Council, Ministry of Justice of Thailand, etc., 2000-2005

Guest Lecturer

For various institutions, 1994-2007

- Legal counselor to Law Firms: Mudge Rose, Guthrie, Alexander & Ferdon, Washington, D.C., USA
- Legal counselor to McCutchen, Doyle, Brown & Enerson, San Francisco, California, USA
- Legal officer, Department of Business Economics, Ministry of Commerce (actively participating in multilateral trade negotiations, and working at office of Commerce in Geneva, Switzerland)
- Judge attach to the Ministry, Acting Assistant to Judge of the Supreme Court
- Secretary Assistant, Department of Intellectual Property and International Trade of the Supreme Court
- Judge of the Court of the First Instance attach to the office of the President of Supreme Court and the Spokesperson for the Judiciary of Thailand
- Judge and Secretary of the civil Court
- Deputy Secretary of the Supreme Court
- Secretary-General of the Election Commission of Thailand (Nov. 15, 2006 – Sep. 18, 2011)
- Special Lecturer on International Commercial Law. International Trade Law, and Intellectual Property Law, Faculty of Law in Chulalongkorn University, Thammasat University, and Ramkhamhaeng University, Dhurakit Pundit University, and Institute of Legal Education(Thai Bar Association)

Awards:

- Certificate of Outstanding Alumnus of the year 2004, Thammasat University
- Person of the 2010 Year Award
- The “Golden Bell “Award of Outstanding Benefit Making to the Society and the Country, from the General Assembly of Radio, Television and Newspapers Producers of Thailand
- Phra Kinnaree Award of the Year 2012, the Project for the Praise and Creation of a “Good Person, Good Thinking, Good Society to Follow in his Majesty’s Footsteps”





Suthiphon Thaveechaiyagarn, Ph.D. NBTC Commissioner

Education :

- Bachelor of Laws (Honors), Thammasat University
- Barrister-at-law, Institute of Legal Education (Thai Bar Association), Session 36
- Scholarship Awarded by the Anandhamahidol Foundation to further studies in the USA as follows:
 - Master of Laws, Harvard University
 - Master of Laws, University of Pennsylvania
 - Doctor of Judicial Science, University of Pennsylvania
- WIPO Diploma in Intellectual Property Training (WIPO Academy)
- AOTS/JIII Diploma in training Program on Industrial Property Management
- Diploma in Mediator Program (King Prajadhipok's Institute)
- Certificate, National Defence College of Thailand (2006), Class 4
- Diploma, Advance Course on Judicial Administration for Executives, 2011-2012
- Certificate, Regulatory Master Class in Telecommunication, Inter Connect Communications, England
- Advance Course on judicial Administration for Executives, class 16





Work experience:

- Legal counselor to Law Firms: Mudge Rose, Guthrie, Alexander & Ferdon, Washington, D.C., USA
- Legal counselor to McCutchen, Doyle, Brown & Enerson, San Francisco, California, USA
- Legal officer, Department of Business Economics, Ministry of Commerce (actively participating in multilateral trade negotiations, and working at office of Commerce in Geneva, Switzerland)
- Judge attach to the Ministry, Acting Assistant to Judge of the Supreme Court
- Secretary Assistant, Department of Intellectual Property and International Trade of the Supreme Court
- Judge of the Court of the First Instance attach to the office of the President of Supreme Court and the Spokesperson for the Judiciary of Thailand
- Judge and Secretary of the civil Court
- Deputy Secretary of the Supreme Court
- Secretary-General of the Election Commission of Thailand (Nov. 15, 2006 - Sep. 18, 2011)
- Special Lecturer on International Commercial Law, International Trade Law, and Intellectual Property Law, Faculty of Law in Chulalongkorn University, Thammasat University, and Ramkhamhaeng University, Dhurakit Pundit University, and Institute of Legal Education (Thai Bar Association)

Awards:

- Certificate of Outstanding Alumnus of the year 2004, Thammasat University
- Person of the 2010 Year Award
- The “Golden Bell” Award of Outstanding Benefit Making to the Society and the Country, from the General Assembly of Radio, Television and Newspapers Producers of Thailand
- Phra Kinnaree Award of the Year 2012, the Project for the Praise and Creation of a “Good Person, Good Think, Good Society to follow in his Majesty’s Footsteps”
- Excellence in Convergence Standards for Telecom, Radio & Broadcasting, NTA World Communication Awards 7th, India
- CEO THAILAND AWARD 2012, Broadcaster and Journalist’s Assembly of Thailand (BJ.AT)





Pol.Col. Taweesak Ngamasanga

NBTC Commissioner

Education :

- Bachelor of Laws, Ramkhamhaeng University
- Master of Public Administration (MPA), Bangkok Thonburi University
- Studying in Doctor of Public Administration (DPA), Bangkok Thonburi University

Work Experience:

- Deputy Police Inspector (Investigations) Kok Sri Supan Police Station, SakonNakon Province
- Deputy Police Inspector (Patrol) at Ban Phai Police Station, Khon Kaen Province
- Deputy Police Inspector (Investigations) at Pol Police Station, Khon Kaen Province
- Police Inspector (Investigations) at Bung kla Police Station, Nong khai Province
- A Committee of the Inquiry Official Committee who was appointed by the royal Thai Police to be responsible for the Essential Property Fraud in Nong khai Province's Area (395 cases)
- Chief of Sophisai Police Station, Nong khai Province
- Chief of Sri Chom Poo Police Station, Khon Kaen Province
- Legal Advisor to a Member of the National Legislature
- The Police Officer's reward due to arresting the dangerous criminals and wounded in action.
- The authorized police officer to contact with the neighboring country: Lao People's Democratic.





Awards:

- The civil Service Outstanding Service Award of the Year 2000 of Nong Khai Police Station

Additional Trainings:

- A Scholarship to study in aircraft in Chinese Taipei (Taiwan) for 1 year
- Special Course for government Officers who were assigned or transferred to a position of the Police Commissioned officer, class 1, Royal Police Cadet Academy, Nakhon Pathom
- Training Course on Police Officers for Special Investigation, the Provincial Police Region4
- Training Course for the Chief of Police Station, the Institute of Police Administration, Royal Thai Police, Class42





Assoc. Prof. Prasert Silphiphat NBTC Commissioner

Education :

- Bachelor of Arts (Economics), Chiangmai University
- Master of Arts (Economics), Middle Tennessee State University, USA
- Certificate, National Defence College of Thailand, Class 45
- Advanced Certificate Course for Executives, Class 33
- Certificate of Advance Justice Administration Course for Executives, Class

Work Experience:

- Professor, Faculty Economics, Chulalongkorn University, 1975-2001
- Vice-Chancellor, Chulalongkorn University, 1997-2000
- Deputy Secretary-General of King Prajadhipok Institute, 2000-2006
- Executive Director, the Telecommunication Development Fund for Public Benefit, 2008-2010

Awards:

- Golden Pin Awards, Chulalongkorn University
- Honorary Alumni, Faculty of Economics, Chiang Mai University
- Outstanding Alumnus Award, Chiangmai University
- Honorable Certificate, King Prajadhipok's Institute
- Honorable Certificate, Pin Award, King Prajadhipok's Institute





Assoc. Prof. Thawatchai Jittrapanun, Ph.D. **NBTC Commissioner**

Education :

- Doctor of Philosophy in Business Administration (Ph.D.), (Finance), University of Alabama, USA
- Master of Business Administration (Finance). Georgia State University, USA
- Bachelor of Engineering (Mechanical Engineering), Chulalongkorn University, Thailand
- Certificate, National Defence Collage, the National Defence, Course 2555

Work Experience:

- Lecturer:
- Professor of Faculty of Economics, Chulalongkorn University
- Professor of Finance, Faculty of Economics, Chulalongkorn University
- Special Professor of Doctoral Program of Finance (Financial Economics), NIDA
- Special Professor of Doctoral Program (Financial Economics) for the joint Doctoral Program in Business Administration (JDBA): Chulalongkorn-NIDA-TAMMASAT Universities
- Special Professor of Finance in Business Administration Program of private and public universities





Administrative Positions:

- Chairman of the BA Program in Economics (International Program), Faculty of Economics, Chulalongkorn University
- Chairman of the Centre for Labor Development, Faculty of Economics, Chulalongkorn University
- Director of the Computer Service Centre, Faculty of Economics, Chulalongkorn University
- Managing Committee for the Master of Science in Technopreneurship and Innovation Management, Graduate School Interdisciplinary Program, Chulalongkorn University
- Member of Chulalongkorn University Faculty Senate

Other Experiences:

- Project leader on Export Performance Index of Thai National Shippers' Council
- Visiting Research Fellow, Saitama University, Urawa, Japan
- Visiting Research Fellow, Institute of Southeast Asian Studies (ISEAS), Singapore, World Bank Research Fellowship Scholarship
- External Examine for Ph.D. Candidates, School of Business Administration, University of New South Wales, Australia





Miss Supinya Klangnarong NBTC Commissioner

Education :

- B.A. in Communication Arts, Chulalongkorn University, Mass Communications (Broadcasting), Bangkok, 1995
- M.A. in Journalism and Mass Communications} Thammasat University, Bangkok, 2000
- M.A. in Communications Policy and Regulation (Merit), University of Westminster, London, 2002

Work Experience:

- Production and Screenwriter Team for Television Documentary on “Rim-Rabieng” produced by Payai Creation Company, 1994-1995
- Media Project Coordinator, Thai Volunteer Service (TVS), 1995-1999
- Coordinator of the Follow-up Committee on the 1997 Constitution of the Kingdom of Thailand, Selection 40, 1999-2001
- Sub-committee on the Public Hearing of the Draft Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services, 2000
- Deputy Secretary-General, Secretary-General of Campaign of Popular Media Reform (CPMR), 2001-2008
- Legislative Committee on the Draft the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services, 2007-2008
- Sub-committee on the Protection of Right and Freedom of Expression for Individuals and Media, Committee on Human Rights, and Liberties and Consumer Protection, the Senate, 2009-2011





- Sub-committee on Broadcasting Regulation, and the working Group for Non-Frequency Business, National Telecommunications Commission, 2009-2011
- Coordinator and Committee of Thai Citizen Network, 2008-2011
- Vice-Chairman of the Campaign Committee for Media Reform
- Sub-committee on Broadcasting Master Plan and the Telecommunication Master Plan, National Telecommunications Commission Acting the National Broadcasting and Telecommunications Commission
- A Broad Member of Film Archive (Public Organization), 2009
- Committee of the Promotion of Rights and Freedom and Responsibility of Media
- Advisory Committee to the Project of Consumers Protection Mechanism for Citizen Media, Foundation for Consumers
- Special Lecturer on Media Reform, New Media and Politics and Human Rights

Awards:

- Golden Television Award on Best Youth Documentary Program, Payai Creation Co., Ltd., 1995
- Woman Human Rights Defender Award, National Human Rights Commission, Thailand, 2006
- Selected as Ashoka Fellow (USA), 2004
- Communication for Social Change (CSC) Award, University of Queensland, Australia, 2006
- Selected as Eisenhower Fellow (USA), 1997
- Bangkok University Communication Award (BUCA), 2007
- 10 Most Influential Woman of the Year 2011, Praew Magazine
- Outstanding Alumni, Faculty of Communication Arts, Chulalongkorn University, 2012
- To chosen 1 in 66 of Shaping Thailand's Future, from Bangkok Post in 2012





Dr. Prawit Leesatapornwongsa, M.D. NBTC Commissioner

Education :

- Bachelor of Medicine, Chulalongkorn University, Thailand, 1987
- Bachelor of Political Sciences, Sukhothai Thammathirat University, Thailand, 1992
- Diplomat of the Thai Board of Preventive Medicine, 1992
- Master of Public Health, Price Leopold Institute of Tropical Medicine, Belgium, 1999
- Diplomat of the Thai Board of Family Medicine, 2004

Work Experience:

- Director of Huay Tap Tan Community Hospital
- Director of Sri Rattana Community Hospital
- Director of Lad Bua Luang Community Hospital
- Director of Uthai Community Hospital
- Chairman of Rural Doctor Society
- Executive Secretary of the Coordinating Committee for Primary Health Care of Thai NGOs
- Executive Secretary of Foundation for Consumer
- Member of the National Economics and Social Advisory Council
- Chairman of Working Group Consumer Protection, National Economics and social Advisory Council
- Director of the Human Rights, the National Human Rights Commission of Thailand
- Sub-Committee of the Human Right, National human Rights Commission of Thailand
- Director of the Telecommunications Consumer Protection Institute, the Office of National Telecommunications commission





General Sukit Khamasunthorn NBTC Commissioner

Education :

- Bachelor of Science Chulachomklao Royal Military Academy, Class 20
- M.A. in Political Science (Security Resources Management), Burapha University
- Joint Staff Course, Command and General Staff College
- Certificate, National Defence College of Thailand, Class 44
- Professional Engineer (Civil Engineering), Board of Control of the Professional Engineering
- Certificate, Executive Leadership Program, Capital Market Academy, Class 15





Work Experience:

- Work Experience:
- Chief of Army Engineering Battalion 1, Royal Guards
- Commander of the 1st Development Division
- Deputy Commander-in-Chief of the First Army Area
- Special Consultant to the Royal Thai Armed Forces Headquarters
- Special Royal Guards
- Judge to the Supreme Military Court
- Member of the Committee to Formulate the Policy for the Provision of Universal Basic Telecommunications Services and Social Services, National Telecommunications Commission
- Advisory Board of the Management of Doctoral Philosophy Program in Political Science, Burapha University

Awards:

- Kiattiyod Jakdao Awards in Social Development of the year 2013, from Armed Forces Preparatory School Alumni Foundation

Special Government Services:

- Responsible for the Project of the Construction of Entrance and Services Pathways within Suvarnabhumi Airport
- The Director of "the Royal Project Don Khun Huay", Phetchaburi Province
- The Director of "the Royal Initiative Project Huay Mae Prieng", Phetchaburi Province
- The Director of "the Queen Sirikit Forest Park Project", Ratchaburi Province
- The Director of "the Construction Project of Benjakit Park", Bangkok
- Chairman of the Working Group on the Psychological Operation and Public Relations, Royal Thai Army
- Chief of the Secretariat office of the Internal Security Operations Command



Section 1

Background of NBTC and the Office of NBTC



The National Broadcasting and Telecommunications Commission (NBTC)

The National Broadcasting and Telecommunications Commission (NBTC) is called in short as “NBTC”. NBTC is an independent organization in accordance with the constitution of Kingdom of Thailand B.E. 2550 (2007) has duties to assign frequencies and to regulate the broadcasting and telecommunications businesses.

NBTC has been established according to the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) which is an implementation of the provisions of the convention on the law in accordance with constitution of Kingdom of Thailand section 47 and section 305 (1) which comprises 11 persons who has components, qualifications and unwanted characteristics according to section 6, section 7 and section 8 of the above Act.

Constitution of Kingdom of Thailand has regulated to have specialist commissioner which are separately sub-sections within the organization for 2 more groups that are Broadcasting Commission, is called in short as “BC” and Telecommunications Commission, is called in short as “TC”. Those 2 groups perform duties as controlling broadcasting businesses and telecommunications businesses.

The compositions of the National Broadcasting and Telecommunications Commission (NBTC) is shown in figure 1

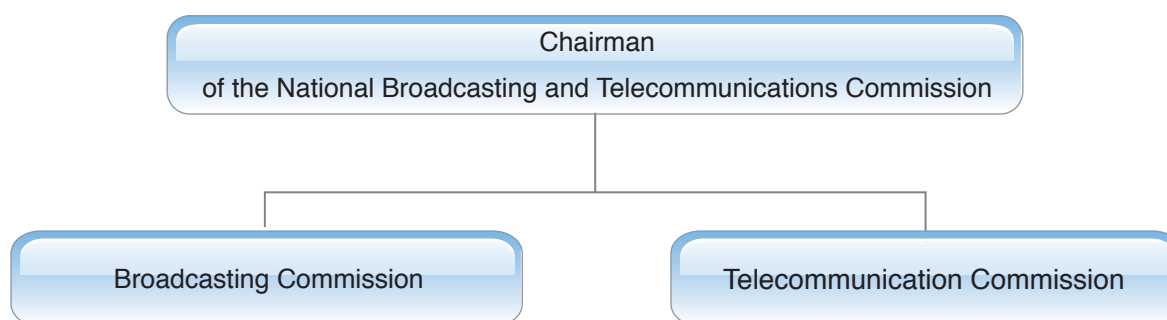


Chart 1: NBTC Compositions



The National Broadcasting and Telecommunications Commission (NBTC)

The National Broadcasting and Telecommunications Commission (NBTC) has been appointed from His Royal Highness King Bhumibol Adulyadej, King of Thailand in accordance with the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) to perform duties in assigning frequencies and regulating the broadcasting and telecommunications businesses with the utmost national and local people benefits and promote to have free and fair competitions which has commenced on duty since the 7th October B.E. 2554 (2011)

Announcement of the Prime Minister's Office

1. Air Chief Marshal Thares Punsri	Chairman of the NBTC
2. Colonel Natee Sukonrat	Vice Chairman
3. Colonel Settapong Malisuwan	Vice Chairman
4. Lieutenant General Perapong Manakit	Commissioner
5. Mr. Suthiphon Thaveechaiyagarn	Commissioner
6. Police Colonel Taweesak Ngamsanga	Commissioner
7. Mr. Prasert Silphiphat	Commissioner
8. Mr. Thawatchai Jittrapanun	Commissioner
9. Ms. Supinya Klangnarong	Commissioner
10. Mr. Prawit Leesathapornvongsa	Commissioner
11. General Sukit Khamasunthorn	Commissioner





NBTC's Authorities and Duties

Section 27 of the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010) prescribed the powers and duties of the NBTC as follows :

1. To formulate the Spectrum Management Master Plan and National Table of Frequency Allocations, Broadcasting Master Plan, Telecommunications Master Plan, Frequency Plan, and Telecommunications Numbering Plan.
2. To assign frequencies for the undertaking of broadcasting, radiocommunications, and telecommunications services.
3. To prescribe characteristics for the undertaking of broadcasting, and telecommunications services.
4. To license and regulate the use of frequencies and radiocommunications equipment in the undertaking of broadcasting, and telecommunications service, or radiocommunications service; and prescribe licensing criteria and procedures, conditions, or licensing fees.
5. To prescribe criteria for efficient use of spectrum without causing interference to the same type of business and other types of businesses.
6. To license and regulate the broadcasting and telecommunications businesses so that the users are provided with services with quality, efficiency, timeliness, reliability and fairness, as well as to prescribe licensing criteria and procedures , conditions, or licensing fees.
7. To license and regulate the use of telecommunications numbers; and prescribe licensing criteria and procedures, conditions, or licensing fees.
8. To prescribe criteria and procedures for telecommunication network access and interconnection, and criteria and procedures for setting access charges or interconnection charges for the broadcasting, and telecommunications service, both for the same type of business and other types of business, to be fair to users, service providers and investors, or between the telecommunications service providers with regard to the public interest.
9. To set tariff structure and price structure for radio and telecommunications services to be fair to users and service providers with regard to public interests.
10. To set standards and technical specifications for broadcasting, and radiocommunications services.
11. To prescribe measure for the prevention of anti-competitive conduct or unfair competition in the radio and television broadcasting, and telecommunications services.
12. To prescribe measure for the provisions of telecommunications services universally and equally.





13. To protect right and liberty of the general public from being taken advantages by operators; protect individual right of privacy and freedom to communicate by means of telecommunications; promote right, freedom and equality of the general public in access to, and use of spectrum in the broadcasting and telecommunications services.

14. To coordinate matters relating to frequency management, both at the national and international levels.

15. To determine and resolve issues relating to interference of Spectrum.

16. To monitor and provide advice on the undertalking of broadcasting, and telecommunications services.

17. To set forth regulation on merger, cross ownership-holding or broadcasting market dominance amongst mass media or by any other person, which its effect will impede the liberty of the public in perceiving information or obstructing public access to a diversity of information.

18. To promote a formation of licensees, broadcasters, and mass media professional in the broadcasting businesses into diverse forms of the occupation or professing under the ethical standards.

19. To issue rules or notifications to issue regulations or notifications with respect to general administration, personnel administration, budget, finance and property and other businesses of the Office of the NBTC.

20. To approve the budget of the office of the NBTC budgets, includes the financing for the Fund.

21. To determine and approve financial allocation for the Fund as proposed by the Fund Management Committee.

22. To provide information and participate in negotiations or making agreements between the Kingdom of Thailand and foreign governments or international organizations in matters relating to frequency management, radio and television broadcasting, telecommunications services, or other related undertakings.

23. To give advice to the Cabinet for an issuance of, or amendment to, legislation related with frequency allocation and other matters relating to frequencies, radio and television broadcasting, and telecommunications services.

24. To prescribe rules, notifications or orders under the power and duties of the NBTC.

25. To perform any other acts as prescribed in this Act or other laws.

In addition to the power and duties prescribed under the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services 2010, the NBTC also has the power and duties under related laws such as Telecommunications Business Act 2001 and its amendment (No.2) 2006, The Broadcasting Business Act 2008, the Radio-communications Act 1955 and its Amendment; and some other related laws.





The Broadcasting Commission (BC)

The structure of the Broadcasting Commission (BC) has 5 commissions under the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010) Section 35, as shown in the Figure 2.



Colonel Natee Sukonrat



Lieutenant General
Perapong Manakit



Police Colonel
Taweesak Ngamsanga



Mr. Thawatchai Jittrapanun



Ms. Supinya Klangnarong

Chart 2: Composition of the Broadcasting Commission (BC)

The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010) Section 37 and Section 27 (4) (6) (8) (9) (10) (11) (13) (16) and (18), appoint the Broadcasting Commission to act on behalf of the NBTC to assign broadcasting matters, and having the powers and duties as follows:



Authorities and Duties of BC

1. To license and regulate the use of Spectrum and radiocommunications equipment in the undertaking of broadcasting service, and prescribe licensing criteria and procedures, conditions, or licensing fees.
2. To license and regulate the broadcasting service to ensure that the users are provided with quality, efficiency, timeliness, reliability and fairness; and prescribe licensing criteria and procedures, conditions, or licensing fees.
3. To prescribe criteria and procedures for network access and interconnection, and criteria and procedures for setting access or interconnection charges for the radio and television broadcasting services, both for the same type of business and other types of business, to users, service providers and investors with regard to the public interest.
4. To set tariff standards and price structure for broadcasting services to be fair to user and service providers with regard to public interest.
5. To set tariff standards and technical specifications for broadcasting services.
6. To prescribe measure for the prevention of anti-competitive conduct or unfair competition in broadcasting services.
7. To protect right and liberty of the general public from being taken advantages by operators, protect individual right of privacy and freedom to communicate, including promoting right, freedom and equality of the general public in access to, and use of spectrum in the broadcasting services.
8. To monitor and provide advice on the broadcasting services.
9. To promote a formation of licensees, broadcasters, and mass media professional in the broadcasting businesses into diverse forms of organization which will have the mandate to set forth ethical standards and self-regulation pertaining to the occupation profession under the ethical standards.





The Telecommunications Commission (TC)

The structure of the Telecommunication Commission (TC) has 5 commissions under the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010), Section 38, as shown in the Figure 3.



Colonel Settapong Malisuwan, Ph.D.



Suthiphon Thaveechaiyagarn, Ph.D.



ASSOC. Prof. Prasert Silphiphat



Dr.Prawit Leesatapornwongsa, M.D.



General Sukit Khamasunthorn

Chart 3: Composition of the Telecommunications Commission (TC)

The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010), Section 40 and Section 27 (4) (6) (7) (8) (9) (10) (11) (13) and (16), appoint the Telecommunications Commission to act on behalf of the NBTC to assign the Broadcasting, and having the powers and duties as follows:



Authorities and Duties of the TC

1. To license and regulate the use of frequencies and radiocommunications equipment in the Telecommunications, or radiocommunications services; and prescribe licensing and procedures, conditions, or licensing fees.
2. To license and regulate the telecommunications business to ensure that the users are provided with services with quality, efficiency, timeliness, reliability and fairness; and prescribe licensing criteria and procedures, conditions, or licensing fees.
3. To license and regulate the use of telecommunications numbers; and set up licensing criteria and procedures, conditions, or licensing fees.
4. To prescribe criteria and procedures for network access and interconnection, and criteria and procedures for setting access or interconnection charges for the telecommunications services both for the same type of business and other types of business, to be fair to users, service providers and investors, or between the telecommunications service providers with regard to public interest.
5. To set tariff structure and price structure for telecommunications service to be fair to users and service providers with regard to public interest.
6. To set standards and technical specifications for telecommunications and radiocommunications services.
7. To prescribe measure for the prevention of anti-competitive conduct or unfair competition in telecommunications services.
8. To prescribe measure for the expansion of the provisions of universal and equal telecommunications services.
9. To protect right and liberty of the people from being exploited by operators; protect individual right of privacy and freedom to communicate by means of telecommunications; promote right, freedom and equality of the people in, and equality of the people in access to, and use of spectrum in the telecommunications services.
10. To monitor and provide advice on the telecommunications services.





The Office of NBTC

Office of the National Broadcasting and Telecommunications Commission, called in short “Office of the NBTC”, was set up by the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010). The Office of the NBTC is a juristic person having a status of State agency and shall not be subject to the government agency under the law on public administration, or state enterprise under the law on budgetary procedure or other laws and is under the supervision of a chairperson. The Office of the NBTC transferred all affairs, properties, rights, duties, liabilities, officers and employees, and budgets from the Office the National Telecommunications Commission (NTC), which nowadays transform to the Office of the NBTC by the law. The Office of the NBTC shall have a Secretary-General of the NBTC, responsible for the work performance of the office and directly answerable to the Chairman that operating by the Office off the NBTC.

The Executives of the Office of the National Broadcasting and Telecommunications Commission in 2012-2013 consist of one Secretary-General of the NBTC and three Acting Deputy Secretary-General of the NBTC. There are totaling 4 persons as shown in the Figure 4.



Chart 4: The Executives of NBTC Officer in 2013



Office of the NBTC's Authorities and Duties

Office of the NBTC shall have revenues by the virtue of Section 65 of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) as follows:

1. Be responsible for the office of the NBTC's revenues and expenditures;
2. Prepare the office of the NBTC's annual budget and submit to the NBTC's. The said annual budget shall include any budget with respect to the conduct of official duties of the NBTC, BC, TC and Office of the NBTC;
3. Monitor and follow up spectrum utilization;
4. Receive and consider complaints with regard to the use of spectrum, the operations of broadcasting and telecommunications business in order to examine and solve the problems or propose recommendations to the NBTC for consideration in accordance with the criteria prescribed by the NBTC;
5. Study, compile and analyze information related to the spectrum, the use of spectrum, the operations of broadcasting and telecommunications business;
6. Be responsible for the administrative work of the NBTC, BC, TC and Fund Management Committee; and
7. Perform other acts as entrusted the NBTC, BC, and TC.

According to Section 65 of the Action the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), major sources of the Office of the NBTC's income shall be derived from the followings:

1. Spectrum license fees and business license fees under Section 42 paragraph two and Section 45 paragraph three under the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and telecommunications service B.E.2553 (2010)
2. Revenues or benefits accrued from the conduct of duties of the NBTC and the Office of the NBTC;
3. Revenues derived from the Office of the NBTC's property;
4. Money and property donated to the Office of the NBTC in accordance with the regulation set forth by the NBTC for the work of the Office; and
5. Subsidies from the government.

Revenues of the Office under (1) and (2) after deducting by expenditures for efficient conduct of the Office, necessary burden costs, and money allocated for the Broadcasting, and Telecommunications Research and Development Fund for the Public Interest, and the Technology Development for Education Fund under the law on national education shall be remitted to state treasury burden costs, and other sources are not available, the government shall allocate the national budget to the Office as necessary.





Office of the NBTC established the Broadcasting and Telecommunications Research and Development Fund for the Public Interest by the virtue of Section 52 of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) as follows:

1. Operating for the people to get services of the Broadcasting and Telecommunications thoroughly. As well as, promoting community and entrepreneurial communities by the virtue of Section 51.
2. Promoting and supporting the Telecommunication Development, the Broadcasting and Telecommunications Research and Development, including the ability in knowledge of using the radio frequency, information technology, facilitation technology for disabled persons, adult and disadvantaged persons, as well as telecommunication industry and continued industry.
3. Promoting and supporting the Human Resources Development in the Broadcasting and Telecommunications Services, and Information Technology.
4. Promoting, supporting and protecting consumer in the Broadcasting and Telecommunications Services, as well as setting the moral standard in occupation under the law of the Broadcasting and Telecommunications Services.
5. Supporting the operation under the law in Safety and Creative Media Development Fund allocated by Safety and Creative Media Development Fund.



Section 2

Major Performance Report of 2013



Broadcasting and Telecommunications Incentive Policies

The National Broadcasting and Telecommunications Commission (NBTC) is an independent regulatory body of Thailand with the duty to supervise broadcasting and telecommunications industry by promoting free and fair competition, regulating the spectrum usage for the utmost benefit, by taking into account the appropriateness, necessity and sufficiency of spectrum available for the commercial use, public sectors, state security and public facilitation. The NBTC has been graciously appointed by His Majesty the King on October 7, 2011. More than two years of carrying out the tasks as mandated by law, the NBTC has promulgated many major policies to further develop broadcasting and telecommunications businesses for the benefit of the country, such as:

- *The auction of 3G technology on the 2100 MHz*
- *The protection of consumers' rights in regards to the end of the concession for the 1800 MHz*
- *The switching of television terrestrial broadcast from the analog to digital, and the auction of digital television frequencies*

In addition to regulatory duties to ensure fairness to all parties involved in the businesses, the NBTC also has a role to develop and expand broadcasting and telecommunication businesses to ensure the highest economic benefit measurable through EVA (economic value added) derived from the economic profit of certain companies added value which should be higher than the investors' required rate of returns.

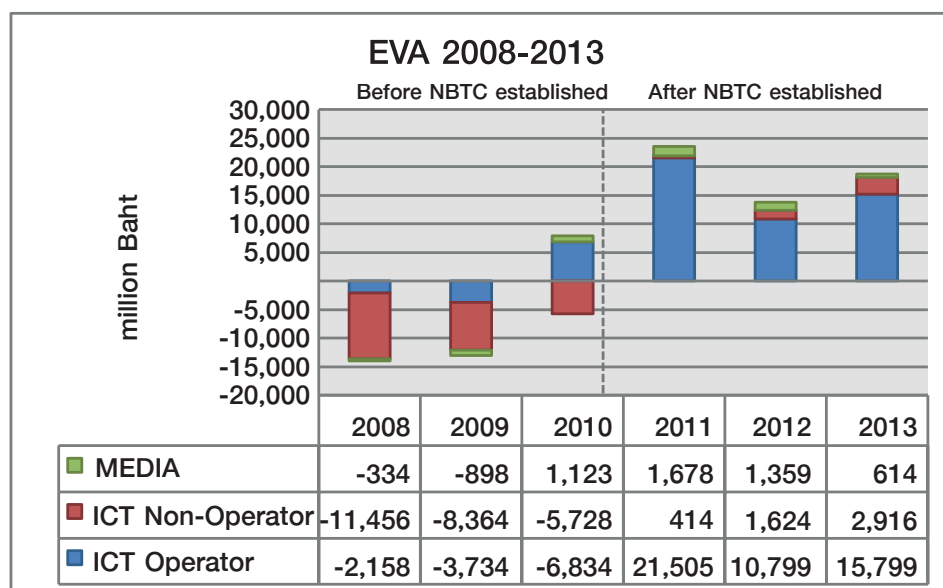
The principle of the EVA is the value creation as derived from the improvement of the efficiency of the management, administration and the utilization of the investment. The overall pictures show that during the time after the conception of the NBTC (2011-2013), the EVA of the ICT industry on the part of the operator, non-operator and the media clearly showed improvement. The ICT operators grouping three companies showed the biggest EVA improvement, followed by ICT non-operators and the media.

The EVA of ICT operators during 2011-2013 shows an increase of THB15,500 million (collectively from THB940 million to THB47,000 million), equivalent to 50 times before the NBTC, as shown in Graph 1





Graph 1: The Value Added in Economic Terms of ICT and Media Industries, Comparing the pre-NBTC Period of 2008-2010 and after the Establishment of the NBTC during 2011-2013



Source: National Institute of Development Administration

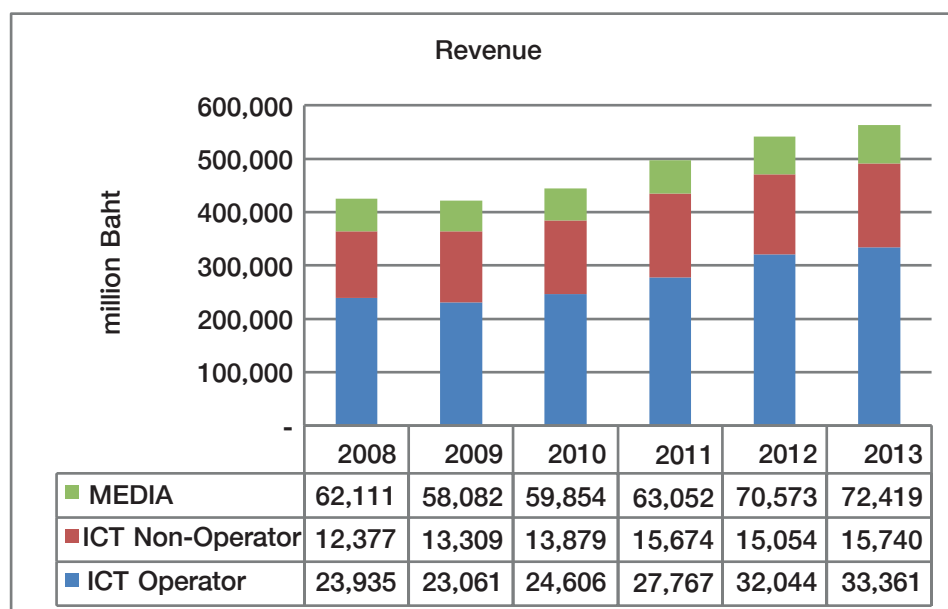
As for the ICT non-operators, the group showed continuous negative trend during 2008-2010, but reported an up-swing in 2011-2013 with the NBTC in place, resulting in a less negative EVA from 2011 onwards. For the media group, the EVA was positive throughout the 2011-2013 period compared to the negative EVA in 2008-2010 which turned positive in 2011.

The success in adding value to the broadcasting and telecommunications industry can be attributed to several factors: market growth, increased revenue, reduction of budget and overheads, increase in specific taxes paid, increase in interest and dividend paid to investors, increase in investment in this sector, the efficiency of the investment and the EVA as contribution to the country's economy. As previously stated, the overall revenue realized by the three groups after the establishment of the NBTC compared to past years was significantly higher. The increase for the ICT operators alone was over 50 percent of all combined revenue from the three groups. Adding to that, the ROE (return on equity) also improved on the average. The ability to pay out interests as measured by the TIE (times interest earned) ratio also improved for all three groups. The ICT non-operator and Media groups showed improved debt payment efficiency with noticeable better TIE, especially for the ICT non-operators which improved by almost two folds compared to the years before the NBTC as shown in Graph 2 and Graph 3:



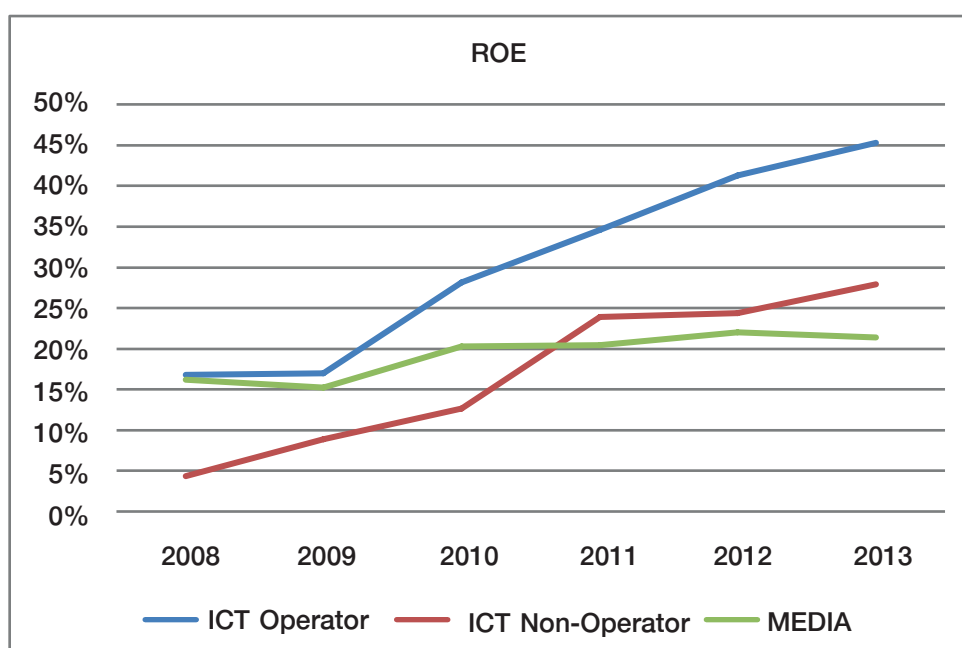


Graph 2: Income from ICT and Media Industries during 2008-2010



Source: National Institute of Development Administration

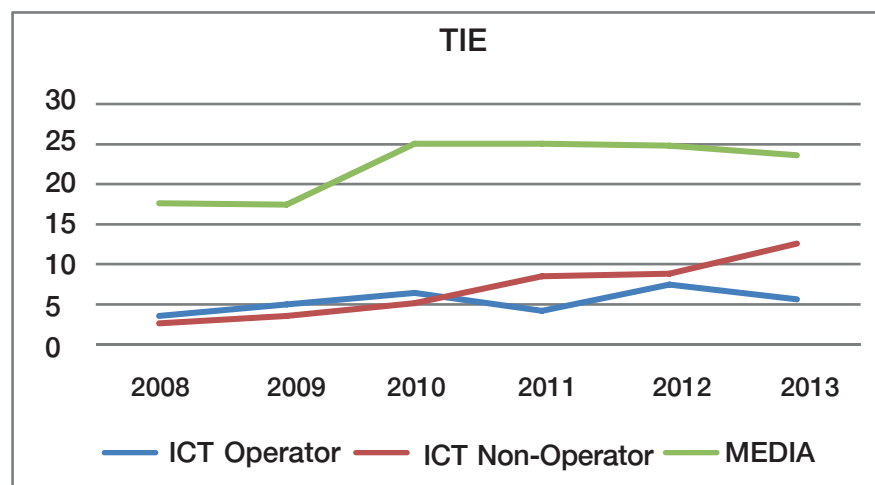
Graph 3: Average Return on Equity (ROE) of the Shareholders in the ICT and Media Industries during 2008-2013



Source: National Institute of Development Administration



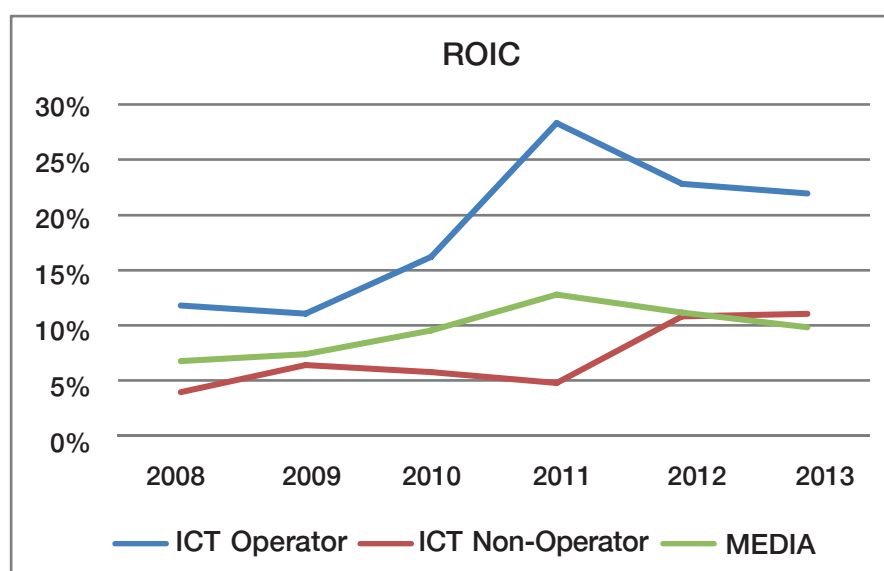
Graph 4: Times Interest Earned (TIE) of ICT and Media Industries during 2008-2013



Source: National Institute of Development Administration

As for ROIC (return on invested capital), on the average every group showed improvement. The ICT operator group showed the highest increase in 2011, and the ROIC during 2011-2013 showed improvement every year against before the NBTC came into being. This includes the other two groups which also showed improved ROIC as shown in Graph 5:

Graph 5: Return on Invested Capital (ROIC) of ICT and Media Industries during 2008-2013



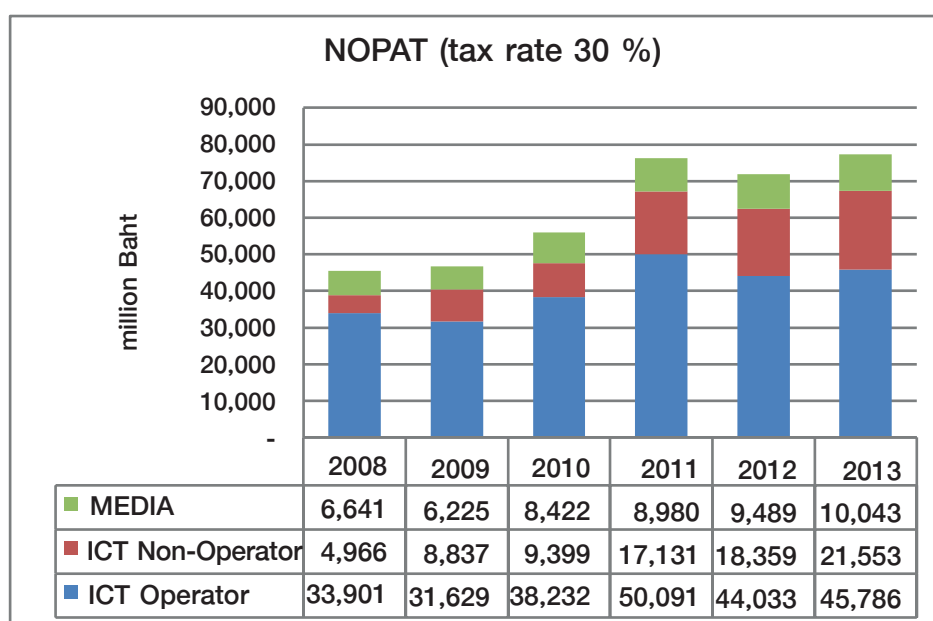
Source: National Institute of Development Administration



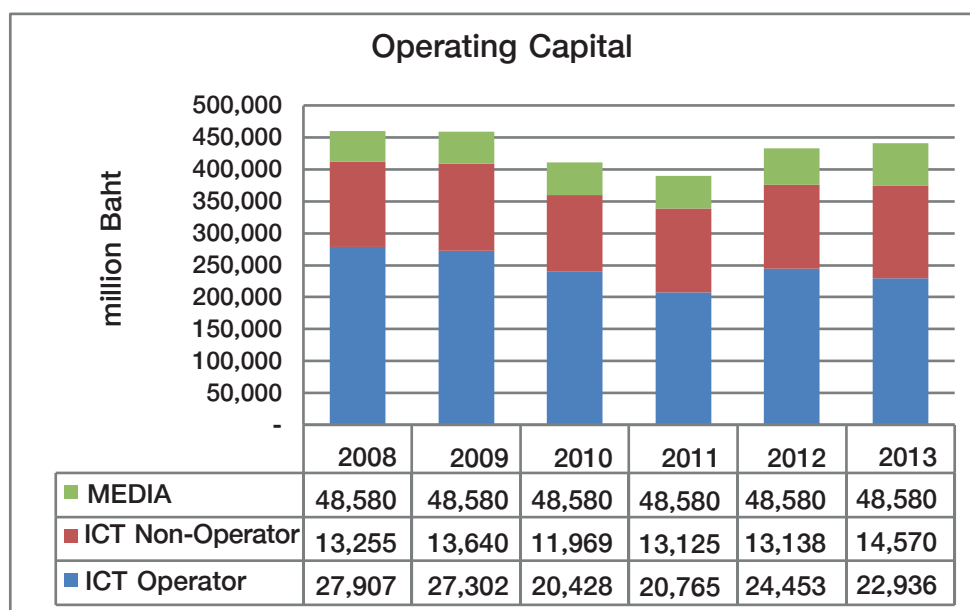


The increase in ROIC stemmed from the across-the-board increase of the net operating profit after taxes (NOPAT) on investment for operating capital. There was a slight change on the part of the ICT operators whose operating capital decreased on the average during 2011-2013 at THB227,182 million – about THB37,000 million, or about 14 percent, less than before. For the ICT non-operators, the operating capital increased about THB6,500 million (5 percent), and THB 8,400 million (17 percent) for the media group, as shown in Graph 6:

Graph 6: Net Operating Profit after Tax (NOPAT) of ICT and Media Industries during 2008-2013



Source: National Institute of Development Administration

**Graph 7: Operating Capital of ICT and Media Industries during 2008-2013**

Source: National Institute of Development Administration

To conclude, following the establishment of the NBTC, companies in the three ICT groups: Operators, non-operators and media realized an increase in EVA compared to the time before that. More importantly, the data acquired from the period following the establishment of the NBTC (2011-2013) was just the start of the business cycle of the 3G technology that still had the potential to grow. The said period was considered to be the introductory stage when compared to the maturity stage of the 2G technology from 2008 to 2010.

In 2013, was tasked with operations, projects and major activities that can be considered long-term or projects which were to get underway in 2013. These are:

1. Activities and major projects in the areas of broadcasting and telecommunications
2. Activities and projects in the areas of broadcasting and telecommunications that will serve to improve the quality of life of people in the rural areas in the fields of education, health, social and safety and security
3. Activities in the areas of broadcasting and telecommunications in the international arena
4. The relationship between the government and parliament





Broadcasting and Telecommunications Project and Activities

Transforming Thailand's terrestrial digital television – from analog to digital

The NBTC has transformed Thailand's terrestrial digital television from analog to digital and has granted television broadcast licenses for terrestrial digital broadcasting to four essential public service providers, namely, the Royal Thai Army, the MCOT Public Co., Ltd., the Public Relations Department and the Thai Public Broadcasting Service (TPBS).



Figure1: Terrestrial Digital broadcasting Licenses to 4 Major Public Organizations.





The Spectrum Auction for Digital Television Broadcasting Services at the National Level

Digital television auction process:

The National Broadcasting Commission (NBC) has drafted an NBTC Notification on the criteria, method, and conditions pertaining to the spectrum auction for the digital television services at the national level, and has arranged for pre/mock auctions with the first one held on May 28, 2013 and the second pre/mock auction held on July 1, 2013, at Conference Hall, 1st Floor, Conference Center, NBTC Office, as shown on Table 1:

Table 1: Spectrum Auction Procedure for Digital Television

Process	Activity/administration
1. Invitation to participate in the auction	<ul style="list-style-type: none"> • Announcement/Information Memorandum Distribution • Briefing on the procedure before and after information memorandum distribution
2. Qualification scrutiny	<ul style="list-style-type: none"> • Checking the participants' qualification • Announcement of qualified participants
3. Auction process briefing	<ul style="list-style-type: none"> • Meeting to brief participants on the process • Demonstration of the auction process
4. Spectrum auction	<ul style="list-style-type: none"> • Auction proper • Announcement of auction results • Assignment of service numbers
5. Fulfilling requirements before issue licenses	<ul style="list-style-type: none"> • Request for service spectrum • Process pertaining to NBTC announcement on the criteria and method for the broadcast licenses of 2012 • Payment of fees for the broadcast licenses
6. Issue licenses	<ul style="list-style-type: none"> • Issue spectrum licenses • Issue business licenses

Source: Group of Broadcasting





Timeframe for the submission of request for spectrum licenses

The information on the timeframe for the submission of request for spectrum licenses is designed to help those desiring to submit requests for spectrum licenses, with details shown on Table 2:

Table 2: Timeframe for the Submission of the Request for Spectrum Licenses:

Responsibility	Timeframe
Invitation to participate	
<ul style="list-style-type: none"> • Issuance of invitation • Briefing on procedures before sale of auction documents • Sale of auction documents • Briefing on procedure before granting of licenses after the sale of auction documents • Briefing on fees and prices for the frequencies as stipulated by the NTC 	<p>August 27, 2013 September 3, 2013</p> <p>September 10-12, 2013 October 15, 2013</p> <p>Not less than 30 days before auction date</p>
Qualification scrutiny	
<ul style="list-style-type: none"> • Submission of request • Announcement of participant list • Announcement of auction dates and intervals between auction dates for different groups 	<p>October 28-29, 2013 Within 45 days after the deadline to submit requests</p> <p>Within 15 days after announcement of participant list (at least 15 days before auction date)</p>
Auction process briefing	
<ul style="list-style-type: none"> • Briefing on the auction process, demonstration and mock auction • Start of auction • Announcement of auction results 	<p>Within 15 days after announcement of participant list</p> <p>Within 30 days after announcement of participant list</p> <p>Within 15 days after auction</p>
Fulfilling the requirements before granting of licenses	
<ul style="list-style-type: none"> • Fulfilling the requirements 	<p>Within 45 days after receipt of notification of winning bids</p>
Awarding of licenses	
<ul style="list-style-type: none"> • Awarding the licenses 	<p>When auction winners have fulfilled all requirements</p>

Source: Group of Broadcasting





Licenses for use of spectrum for television broadcasting

The NBC issued invitations and the documentation for use of spectrum license in television broadcasting, with the auction documents distribute to 33 private sector entities representing a total of 49 bid tenders divided into four categories: Children, youth and family 8 tenders; news and documentary 12 tenders; variety in standard definition (SD) 17 tenders; and, variety in high definition (HD) 12 tenders. Of those 49 tenders sold, 41 tenders have been formally submitted represented by 29 companies:

1. Children, youth and family: 6 companies
2. News and documentary: 10 companies
3. Variety in standard definition (SD): 16 companies
4. Variety in high definition (HD): 9 companies

The NBC has appointed Chulalongkorn University and the National Institute of Development Administration (NIDA) to take charge of scrutinizing the qualification of the candidates who submitted the auction tenders numbering altogether 41 tenders.

The auction for the use of spectrum in television broadcasting for commercial nationally on 24 channels

The auction for 24 channels on spectrum for the commercial television broadcasting nationwide on December 26-27, 2013 would usher in a historic development in the Thai broadcasting television industry. It will bring about the change in terrestrial television broadcasting in Thailand from the analog system to digital system. The two-day auction resulted in the participants submitting bids in the four categories worth a total of THB50,862 million baht. The allocation of the 24 commercial digital channels consist of seven high definition (HD) channels, seven standard definition (SD) variety channels, seven news channels and three children channels, under the 15-year concessions, with the bid winners of the digital television for national broadcasting as in Table 3:





Table 3: The Winners in Each Category of Spectrum Auction for Digital Television

Number	Children, youth and family category
1	BEC-Multimedia Co., Ltd.
2	MCOT Plc.
3	Thai TV Co., Ltd.
Number	News and documentary category
1	NBC Next Vision Co., Ltd.
2	Voice TV Co., Ltd.
3	Thai TV Co., Ltd.
4	Spring News Television Co., Ltd.
5	Thai News Network (TNN) Co., Ltd.
6	DN Broadcast Co., Ltd.
7	3A Marketing Co., Ltd.
Number	Variety Standard Definition (SD) category
1	Thai Broadcasting Co., Ltd.
2	True DTT Co., Ltd.
3	GMM SD Digital TV Co., Ltd.
4	BEC-Multimedia Co., Ltd.
5	RS Television Co., Ltd.
6	Mono Broadcast Co., Ltd.
7	Bangkok Business Broadcasting Co., Ltd.
Number	Variety High Definition (HD) category
1	BEC-Multimedia Co., Ltd.
2	Bangkok Media & Broadcasting Co., Ltd.
3	Krungthep Television & Radio Co., Ltd.
4	Triple V Broadcast Co., Ltd.
5	MCOT Plc.
Joint 6*	Amarin Television Co., Ltd.
Joint 6*	GMM HD Digital TV Co., Ltd.

**In the case of tied bids in 6th place for the HD category by Amarin Television Co., Ltd. and GMM HD Digital TV Co., Ltd., there would have to be a lot drawing to break the tie in accordance with NBTC Notification No. 9.3.1 regarding the criteria, method and conditions pertaining to the spectrum auction for the digital television services at the national level of 2013, before being assigned the numbers*

Source: Group of Broadcasting





























As the NBTC has organized the spectrum auction for digital television services at the national level and has already announced the winning bids, on January 27, 2014. The running numbers for the digital television broadcasting were officially announced at Chao Phraya Room, Royal Thai Navy Club, Arun Amarin Road, Bangkok Yai, Bangkok. All 20 companies with 24 concessions chose the numbers of the services according to the four categories they have bid for, with the highest bidder getting the first opportunity to choose the number, except for the two tie bids in the Variety HD category for which a lot had to be drawn, with the result Amarin Television Co., Ltd. getting No.6 and GMM HD Digital TV Co., Ltd. getting No.7.





The Result of the Choice of Members for the Digital Television Service

Chart 5: Channels for Digital Television Service

Children, Youth & Family Category		
	BEC-Multimedia Co., Ltd.	13
	MCOT Plc.	14
	Thai TV Co., Ltd.	15
News & Documentary Category		
	Thai News Network (TNN) Co., Ltd.	16
	Thai TV Co., Ltd.	17
	DN Broadcast Co., Ltd.	18
	Spring News Television Co., Ltd.	19
	3A Marketing Co., Ltd.	20
	Voice TV Co., Ltd.	21
	NBC Next Vision Co., Ltd.	22
Variety Standard Definition (SD) Category		
	Thai Broadcasting Co., Ltd.	23
	True DTT Co., Ltd.	24
	GMM SD Digital TV Co., Ltd.	25
	Bangkok Business Broadcasting Co., Ltd.	26
	RS Television Co., Ltd.	27
	BEC-Multimedia Co., Ltd.	28
	Mono Broadcast Co., Ltd.	29
Variety High Definition (HD) Category		
	MCOT Plc.	30
	GMM HD Digital TV Co., Ltd.	31
	Triple V Broadcast Co., Ltd.	32
	BEC-Multimedia Co., Ltd.	33
	Amarin Television Co., Ltd.	34
	Krungthep Television & Radio Co., Ltd.	35
	Bangkok Media & Broadcasting Co., Ltd.	36

Source: Group of Digital Broadcasting



The bid winners would have to abide by all the conditions before being issue the concessions in accordance with the NBTC Notification on the criteria, method, and conditions pertaining to the spectrum auction for the national digital television services of 2013,” namely, the first payment for the concession fee would have to be paid within 30 days after being notified as the winners. The payment is divided into two parts: The first part – 50 percent of the median price along with the promissory note for the whole amount. The second payment is for 10 percent of the amount higher than the median price along with the promissory note for the rest of the upstanding amount. For the remainders of the payment, the bid winners must first request for the service of the television broadcast network from the consignees for the digital terrestrial broadcast, namely, the Royal Thai Army, MCOT, the Public Relations Department and TPBS, within 30 days after being notified as the winners and complete the process within 45 days after being notified as above.

In addition, when the permission is granted, the bid winners must start the business in accordance with conditions as stipulated in the programming conditions and other relevant announcements.

Broadcasting Licenses (Trial) For Radio Operators

Licenses for the temporary operation of radio broadcasts took place on January 9, 2013. A total of 515 radio operators were certified for the licenses after they submitted their applications within 120 days as from the date of the announcement of the awarding of the licenses.



Figure 2: Broadcasting License (Trial) For Radio Operators





Figure 3: Broadcasting License (Trial) For Radio Operators

Telecommunication Projects and Activities

The National Telecommunications Commission (NTC) has approved the plan to drive the activities to achieve wide coverage of telecommunications services under the universal service obligation (USO) scheme from 2012 to 2016. These activities are divided into two dimensionals - locality and social - with the aim to offer the access to telecommunications services such as public telephones, high-speed internet as well as to modern telecommunication technology, to people in the rural areas and socially under-privileged people, namely the elderly, the disabled and the less opportune. This availability should be suitable to the locality and to the target groups.

The NTC has mapped out the project to expand the telecommunications coverage on the locality dimension by drawing up a list of target areas for voice, data, and services. Initially, the projects call for an auction to provide the services, through the draft criteria, methods and conditions for the auction of basic telecommunications services (A.D. xxxx), that will be used to choose the concession awardees as well as to deposit the collected fees into the Fund for the Research and Development of Broadcast and Telecommunications Businesses for Public Services, and to appoint the concessionaires to provide wide-reaching services for the good of the society according to the areas mapped out by the NTC.

As for the details regarding the projects under the plan for the wide-ranging distribution of telecommunications services for the society dated 2012-2013, please see the following:





1. The project to introduce cellular telephone network and public telephone for villages. This project was conceived to level the playing field in terms of the accessibility to voice telecommunications service under the 2102-2016 plan to lay down the basic telecommunications infrastructure. A study shows that about 6 percent, or about 3.8 million Thai people cannot access to voice telecommunications service, especially in regards to cellular network and public telephones. Therefore, the plans call for the installation of public telephone services to meet the needs of the rural people at village level and in areas that are previously disconnected. The plan is for the services to reach at least 95 percent of the population within five years, as shown in Graph 4.

Table 4: Goals and Guideline to Install Cellular Telephone Network and Village Public Telephones

Goals	Execution plan
1. No less than 95 percent of the population should access to personal telephones	Expand the cellular coverage to cover the population from the 94 percent to 95 percent (excluding national forest reserves areas)
2. To install at least two to three public telephone numbers per village in areas which are not commercially viable and no existing service	Install public telephone services in villages with the population of 500 and above, and located in areas which are not commercially viable and without existing services

Source: Group of Universal Service

The installation of the cellular telephone network and public telephones will be expedited by the NBTC through the bidding process for the licensed operators to carry out the works within the budget set by the NBTC in accordance to the relevant rules and conditions, and following the timeline as below:

Phase 1: (2012-2013) Install cellular telephone networks and village public telephones in pilot projects in Phitsanulok and Nongkhai provinces

Phase 2 (2013-2016) Install cellular telephone networks and village public telephones in 20 provinces

2. The expansion of the broadband service network through auction. The project is to expand the high-speed broadband services to cover the entire country as tasked to the NBTC in accordance with Article 50 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010) and the strategy to expand the basic telecommunications network according to the telecommunications roadmap 2012-2016, as well as the government broadband policy.





Therefore, the expansion of the broadband coverage to cover the entire country is a major task that will help to reduce the gap in the access to voice and data telecommunications. So the NTC has set the 5-year goals as follow:

1) At least 80 percent of the total population must be able to access to high-speed internet (no less than 2 Mbps)

2) Set up community internet service centers, internet services in schools or internet service center at tambon health center, and others, with the internet speed of at least 2 Mbps, in areas that are not commercially viable and currently are blind spots

As for the broadband expansion concept, the plan calls for the installation of fiber optic networks to cover areas not previously reached to provide access for a total of no less than 80 percent of the entire Thailand population, as well as to provide internet coverage for the remaining 20 percent of the population living in remote areas of the country. A total of THB16,257 million was earmarked to be spent for throughout the 5-year project. If the goals are reached, the Thai population and the government and private sector will have a greater access to broadband services thus accelerating the economic and social development of the country.

The goals and process of the broadband expansion plan is detailed in Graph 5:

Table 5: The Objectives and Guidelines of Network Expansion for Broadband Service Project

Goals	Process
1. At least 80 percent of the entire population should be able to access high-speed internet with at least 2 Mbps speed	<ul style="list-style-type: none">• Expand the optical fiber cable (OFC) network to previously in accessible areas to reach the goal of covering at least 80 percent of the population in the respective provinces after the OFC network has been installed• Install internet connections in schools and tambon health care facilities, as well as setting up community internet centers without limiting the technology applied for the last mile access (LMA) as specified
2. The remaining 20 percent of the population must be guaranteed of the internet reach at the community level	<ul style="list-style-type: none">• Set up village internet community centers as well as install internet connection in schools, tambon health care centers to cover the remainders 20 percent of the population in the provinces

Source: Group of Universal Service





To reach the stated goals under the telecommunications expansion plan for the society 2012-2013 in regards to the broadband service, an auction is necessary to choose the universal service providers. The project is divided into two phases:

Phase 1 (2012-2013): The project to expand broadband service in two pilot provinces through an auction

Phase 2 (2013-2016): The project to expand the broadband services in 20 provinces through auction

The Ceremony to Launch “The Project to Expand Broadband Service in Two Pilot Provinces

The NBTC hosted the launch ceremony of “the project to expand telephone and internet services through auction in two pilot provinces” at Central Plaza, Phitsanulok Province on November 28, 2013, and in Nong Khai Province on December 17, 2013 with General Sukit Khamasunthorn as chairman and attended by Nong Khai provincial governor Wirat Limswat and NBTC’s commissioner Dr. Suthiphon Thaveechaiyagarn. After the launch of the telephone and internet services in the pilot provinces, Phitsanulok and Nong Khai through auction in 2013, the NBTC will implement auctions in the remaining 73 provinces throughout the country in 2014 to ensure that the goal of maximum coverage of telephone and internet services within five years will to reduce telecommunications and data gap will be realized.



Figure 4: The Project to Expand Broadband and Service through Auction in Two Pilot Provinces in Nong Khai





3G Service and Thailand's Economic Development

Thailand's total telecommunications market in 2012, which was worth THB 279,000 million or about 2.36 percent of gross domestic product (GDP) at current market price, grew about 4.7 percent over 2011. The cellular telephone sector alone accounted for 76 percent of the total market. The trend of the communications market in 2013 was expected to grow by about 10 percent, and the year 2016 should show a growth rate of about 25 percent. The driving force behind the growth rate of the cellular telephone sector was the granting of licenses for the international frequency for 3G services at 2.1 GHz by the NBTC on December 7, 2012. This development was seen as greatly benefiting Thailand as a whole, the general population and the service providers.

The micro economic impact on the consumers of the new 3G service was mainly the phenomenal increase in telecommunication speed over the old 2G technology by about 30-35 times. The downlink speed was boosted from 3.6 Mbps to 42 Mbps and will further increase to 100 Mbps in the near future which will include the plan and roadmap on the technological management based on new technologies.

In 2013 the consumer trend towards smart phones grew along with the expansion of the wide choices of various applications resulted in the exponential growth in the data transfer. It is expected that by 2016, the ratio between data traffic and voice traffic will grow from 32 percent to 50 percent. When the majority of the population have constant access to fast and stable internet connection with improved and less expensive services, the people will turn more and more to communications through the internet, on social media applications such as Facebook, Twitter, Google+, Instagram and WhatsApp. In addition, people will also access TV On-demand and use Voice-over IP for voice communications.

Furthermore, more people are availing of on-line access to certain services such as transactions through mobile banking which has recorded about 20 million transactions recently. Also of note are a variety of E-commerce options, which can lead to the estimate that within five years, the number of cellular phone subscribers in the 3G system on the 3.1GHz will climb to about 60 million numbers.

As for the trend and estimate of the mobile bandwidth consumption during 2011-2017, it is expected that most of the bandwidth will not be used for voice data - which correlates with the expected development and growth of smart phones that by 2017 will account for 52.6 percent of the total population. And when the only usage of the W-CDMA/HSPA, or 3G, system is taken into account, most or about 80 percent of total usage will be used to access websites, download videos through smart phones and use social media applications. Please see Table 6, below.



**Table 6: Trends in W-CDMA/HSPA or 3G during 2011-2017**

Ave/MB/Mo/Sub	2011	2012	2013	2014	2015	2016	2017
Internet browsing	2,089.0	6,241.1	7,449.3	9,932.5	13,951.6	17,980.4	23,058.0
Mobile video	2,317.8	7,438.9	8,869.4	10,842.1	13,435.9	16,217.7	19,349.1
Social media	2,307.9	6,687.7	8,608.8	10,982.3	13,875.7	17,195.8	20,951.5
Instant messaging	830.5	3,004.7	3,589.1	4,611.1	5,975.3	7,300.4	8,864.8
Mobile music	417.2	1,579.5	2,059.3	2,654.3	3,427.6	4,164.5	5,029.3
Emails	79.4	522.6	572.6	645.4	728.6	823.9	933.1
Others	577.6	2,373.7	2,665.7	3,020.1	3,448.4	3,887.8	4,380.3
W-CDMA/HSPA	8,619.4	27,848.3	33,814.2	42,687.8	54,843.1	67,570.5	82,566.2

Source: IDC Co., Ltd.

Deriving from the estimate of the bandwidth consumption, the clear positive impact on meso-economic is the improvement in the quality of service, instilling more confidence for investors who then can offer or receive services from partners in other sectors through the cellular network, and especially through radio and television broadcasts. In addition, the costs to service providers will be lessened compared to the cost of the 2G service, which could result in a more competitive environment on an equal footing leading to a larger and more imaginative scope of services with improve service quality. Furthermore, this will be more conducive for reduced service fees creating even more market opportunities for businesses of various sizes that will have the chance to develop their products to another level. This kind of atmosphere in the telecommunications industry will help to further boost the country's economy which will definitely impact both up-stream and down-stream businesses.

The Protection for the Telecommunications Consumers

The NBTC has joined with the Office of the Consumer Protection Board (OCPB), with NBTC Deputy Chairman Colonel Dr. Settapong Malisuwan (NBC Chairman), Dr. Suthiphon Thaveechaiyagarn and NBTC Secretary General Takorn Tantasith, along with OCPB Secretary-General Jirachai Thongroey and his deputy Bandhit Tangprasert, to take to the streets of metropolitan Bangkok to check the quality and standard of cellular phone services. They also checked on the problems with the pre-paid cellular service particularly in regards to SIM card registration and the average call fee of THB0.99. The inspection took the team from the NBTC office all the way to Mega Bangna Mall, checking the services of all three service providers along the route.





Temporary Compensation Rate

Since 2012, the NBTC has a policy to continuously push for the launch of the 3G services as a new dimension of Thailand's telecommunications and has set guidelines for the services so that the benefits will go the consumers, both on the consumer protection aspect and the market competition aspect. However, the use and the 3G network connection required an investment which would directly affect the consumers. Therefore, the NBTC has instituted the temporary compensation rate for the 3G connection to the service provided at the rate of THB 0.45 per minute.

Most service providers fully cooperated in the adjustment of the compensation rate for the connection of the telecommunications network, through negotiations to amend the compensation rate to reflect the rate that the NBTC has instituted. Up to the present, the negotiations are still on-going that some aspects are yet to be concluded. At the same time, some service providers do not agree with the proposed THB0.06 per minute for the transit connection rate, claiming that the rate is too low – resulting in delays in the telecommunications connection.

The NBTC has published the NBTC Notification in regards to the standardized compensation rate for telecommunications connection in the Royal Gazette on October 25, 2013 in which the calculation as derived from the study will be used to regulate the compensation rate for the telecommunications connection as the industry standard as we go forward.





The Activities and Projects to Develop Telecommunications and Broadcasting to Benefit the People's Quality of Life in the Rural Parts of the Country in the Areas of Education, Healthcare, Social and Security

In 2013, the NBTC have continuously carried out telecommunications and broadcasting projects and activities, in addition to initiating projects aimed at developing the quality of life for people in the rural parts in the areas of education, healthcare, social and security, in order the develop Thailand's economy and society in a sustainable manner. This is especially true for projects that would lead towards an extensive coverage of telecommunications and public services, in the social dimension under the telecommunications and social services plan of 2012-2016, in which most the projects are collaborative efforts with agencies targeting the same social groups both in the private and public sectors for the common good of the society. These projects are:

1. Project to expand library services through automatic telephone and internet utilizing the Daisy System

The NBTC has realized the importance of the ability to access information by the sight-impaired and blind people. Therefore, it has developed a project to provide information services through telecommunications (Daisy System), which was already in its third phase. Previously, the project was launched in 2010 as a trial to offer voice telecommunications to the sight-impaired. This service was aimed at opening up the opportunity to the sight-impaired and the blind to gain access to information through efficient and wide-spread network, such as the "information hotline 1414" known among the sight-impaired as the "Daisy Project". The success of the phase 2 in 2010 showed an increase of 150 dedicated lines to the service of the sight-impaired, with increase connectivity. In the same year, the "hotline 1414" service was improved to incorporate internet networks and internet service through automatic telephone system. Phase 2 showed 180,000 times average usage per month.

The goal of the expansion in phase 3 in 2013 was for the blind and for the elderly sight-impaired throughout the country to have access to the automatic telephone system, internet web site and other channels with at least 200,000 times usage per month, and the for entire length of the five-year project (2010-2016), there should be no less than 12 million times usage along with the system-wide expansion of the "information hotline 1414", namely:





- 1) Increase the “information hotline 1414” lines to 480, with the increase rate of 60-90 lines per year;
- 2) Increase the information database through internet web site, upgrading it to become the web information portal with all the characteristics similar to those of a library service and the information hotline
- 3) Expand the information services through the radio reading service broadcast through internet and community radio, expanding the participating community radio networks to 12 locations within the last four years
- 4) Expand the internet service through telephone network by concentrating on satisfying the demand and type of service suitable for the blind in an efficient manner
- 5) Start the test run of the information service through audio description for use on television so that the blind and the sight-impaired will be able to effectively access the information similar to that available to the consumers with normal eye sight. This service is slated to become available in the second year of the project launch
- 6) Improve the effectiveness of the hotline 1414 service, including the development of the function to address the 1414 consumers’ needs, the development of the function of the management of the 1414 service, development of the social network service, the connectivity in regards to the community radio stations and the blind association, the development of the program to automatically record interesting radio and television programs, the development of the channels to access free services such as VoIP and Skype, and the development of the information portal for the blind
- 7) The development of hardware and software related to the efficiency of the 1414 service. Included are the development of the synthesized Thai-text-to-speech with clear and natural enunciation, the development of the Thai voice recognition program especially for consumers using 1414 service to be able to give out commands and access information on the telephone through the keyboard or voice command, and the development of the audio description for information services in Thailand and the study of software and hardware in the field of broadcasting in Thailand, particularly in the part related to audio description
- 8) Promote and develop the production process of informative programs for services through additional channels. It is expected that within five years of the plan to expand the telecommunications and social services, there will be at least 18,000 hours of new programs with the emphasis on contents and quality of information covering all areas that will be beneficial to the quality of life of the blind and the sight-impaired, such as character development, health and hygiene, education, profession and the understanding of rights and availability of public services





9) Organize events to promote and develop the systems that will be beneficial to the blind and the sight-impaired so that they will know and understand how to use the “information hotline 1414”, and to expand the cooperation to all related agencies, so there will be universal understanding of the importance and the needs to promote the access to information to the blind and the sight-impaired. Also to organize technical seminars among ASEAN member countries to share experiences and to enhance cooperation within the region, especially among telecommunications service providers in similar circumstances – both nationally and internationally

The expected results at the conclusion of the project in 2016 are:

1. There should be information services available for the blind and the sight-impaired throughout the country. At the end of the project, it is expected that the “information hotline 1414” automatic telephone system will have no less than 480 lines. There should also be the exclusive information portal for people with all types of disability, especially the blind, should have access to high-speed internet, and the radio reading service with at least 12 repeater stations throughout the country

2. The frequency of usage of the “information hotline 1414” throughout the four-year project. According to the plan to make available the telecommunications nationwide and the social services, it is expected that there will be an average of 12 million times usage covering the target group nationwide

In conclusion, the overall picture of the blind and the sight-impaired should have better convenience in accessing the system and benefit from the information that they can use to improve their quality of life, provide the opportunity to look after themselves and be ready to become valuable human resources in the development of their own communities and the country. This should be another way to eradicate social problems and the obstacles borne of the lack of information on the part of the people.

2. Project to set up the Thai Telecommunication Relay Service (TTRS) for the Deaf and the Vocalizing-Impaired

As the NBTC realized the importance of getting information to the deaf and the vocalizing-impaired, it therefore continued this program for the third phase. Previously, 30 communication relay centers for the deaf have already been set up nationwide with the project's aim to allow more convenient communication and interaction between the deaf and the people of normal hearing, called “Thai Telecommunication Relay Service (TTRS) Contact Center”. The center is manned by sign language interpreters. This project has expanded to other public areas as a service to deaf people.





The success of this project in its second phase (2011-2012) was that more deaf people could have better communication with normal people. At present, about 5,000 deaf people have availed of the service at the TTRS Contact Center. The NBTC has also set up a temporary sign language interpreter's booth at the ToongMahamek Police Station to allow the deaf to better be able to communicate legal matters and not becoming disadvantaged. In addition, interpreter's booths have also been set up at a few hospitals and public areas such as the School for the Deaf, shopping centers, etc. A further six channels of communications for the deaf have been initiated:

- SMS/MMS system
- Chat room on web site: www.ttrs.or.th
- Video chat room on web site: www.ttrs.or.th
- Video chat room for cellular phones on web site: www.ttrs.or.th
- Video conversation through TTRS booths
- Service for emergency communications through several channels, such as, emergency telephone number 02-105-6600 ext. 1; emergency SMS or at number 422/1616; emergency MMS or at number 422/1959; video conversation or video chat on web site www.ttrs.or.th.

The continuation of this project into phase 3 in 2013 for the five-year (2012-2016) telecommunications and public service plan specifically targeted the improvement in the effectiveness in the communication services for the deaf and to support the influx of the deaf and the vocalizing-impaired people for up to 150,000 cases per year. Also importance is the relocating some information channels to the efficient sign language interpretation centers and improve the benefits of these centers to include emergency reports as well as coordinating with public and private agencies to create a network of no less than 1,000 sign language centers around the country and to increase the number of the communication centers for the deaf from the current 30 centers to 180 centers around the country.

It is expected that at the end of the project in 2016, the deaf and the hearing- and vocalizing-impaired and the elderly numbering no less than 172,240 persons will be able to avail of the sign language services, including at least 2,500 participants in the training to use equipment for the communications with the deaf and the hearing-impaired people throughout the country.





3. Project to study and analyze ways to incorporate the service for emergency numbers into the telecommunication system in a wide coverage and for public service

In many countries, they each have only one emergency number used all throughout the country for people can call in emergencies and request for assistance to one central call center. Normally, a country usually chooses a three-digit emergency number that would be easy for the population to remember and for ease of calling in cases of dire emergency, such as in Europe it is 112, in the United States it is 911 and in the United Kingdom it is 999. For Thailand, such a universal number is still not applicable.

Officially, the Thai population can call several different emergency assistance numbers directly to the responsible agencies or units, such as 191 for police, 199 for the Bangkok Fire Brigade, 1586 for Highway Department, 1669 for Narenthorn Center and 1555 for the emergency medical service. A jumble of several emergency numbers results in confusion among the people most of whom cannot remember all the numbers. Therefore, when an emergency or a violent incident occurs, the coordination among the agencies involved and the rehash of information that usually results in delayed assistance or taking control of an incident.

Therefore, the NBC has adjusted the strategy on the basic telecommunications infrastructure through the Universal Service Obligation (USO) under the cooperation with King Mongkut's Institute of Technology Ladkrabang (KMUTL) to initiate the activity "Project to study and analyze the way to integrate emergency number under USO", for which the cooperation agreement was formally signed on November 15, 2013, at the Conference Center, NBTC. The aim of this cooperation was to set procedures to arrive at one single emergency number for the whole country under the USO mandate and framework as stipulated by the Spectrum Allocation Act of 2010 and the NBTC Notification on the strategy to expand the basic telecommunications network and social service of 2012-2016. The result of the study will be used to plan and set procedures to arrive at a nationwide single emergency number and allocate a central frequency to be used only in times of emergency and natural disasters. Included are the way to integrate the cooperation among relevant agencies, to finally achieve the efficient emergency services. The current study project stemmed from the recurring problems of emergency notifications at present which are plagued with many limitations and problems, such as:

- Agencies possessing their own emergency numbers: The people have a hard time trying to remember different numbers, therefore, when faced with emergency situations, most would simply call 191 and request assistance to coordinate with other relevant agencies. This results in heavy call traffic, clogged lines and the need to screen calls as to their authenticity before patching them on to the proper agencies





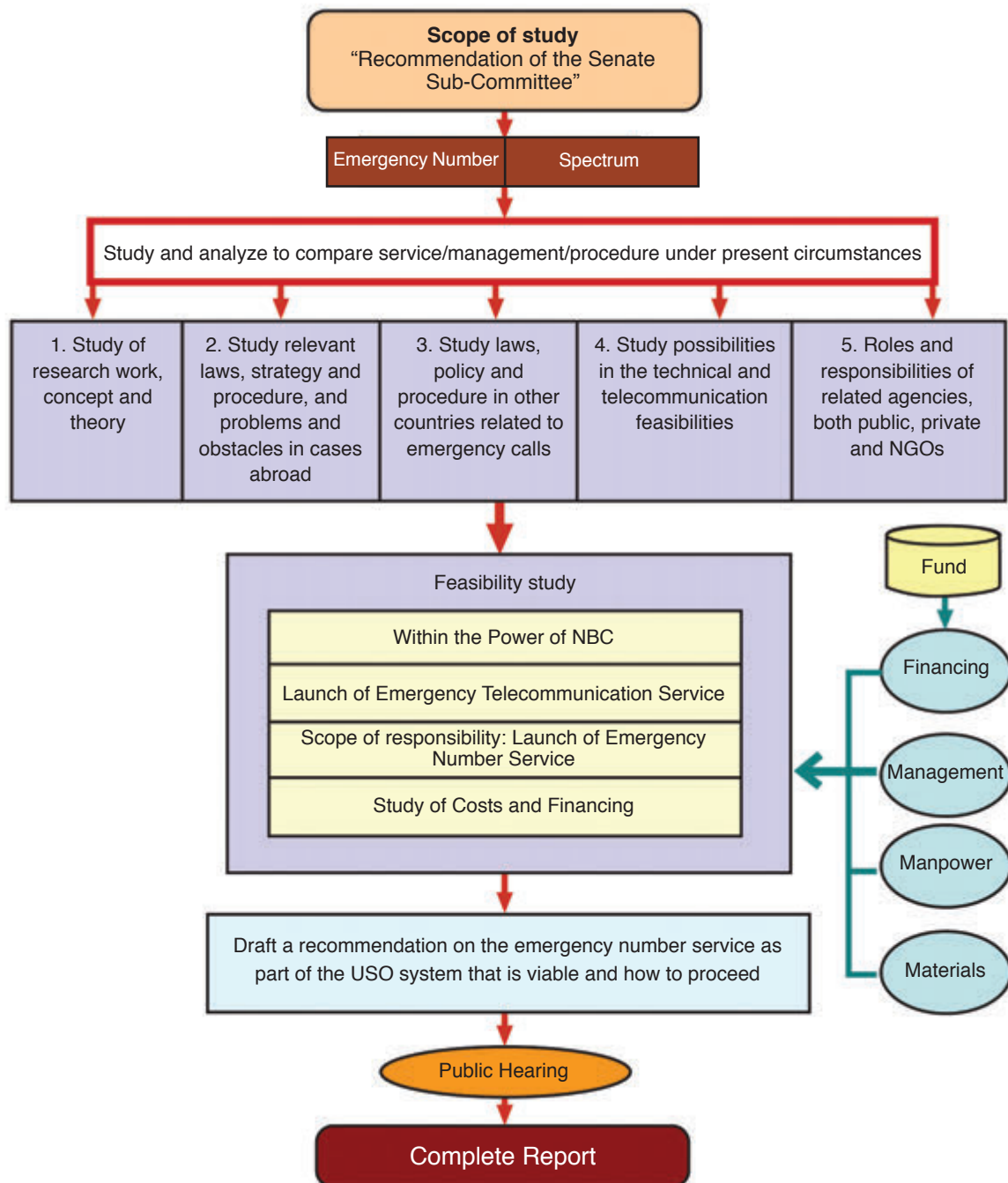
- The limitation in regards to techniques and telecommunications technology: This is especially true for the providers of services which must reflect the emergency nature of the services. Also relevant are the calibration of emergency calls, the access of the officers to the emergency site, the pinpointing of the emergency site through the telephone call, and the speed and accuracy of accessing the emergency site
- The limitation in regards to budget and costs: This involves the provision of services for public telephones, fixed land lines and cellular network for communities and remote villages as well as the waiving of fee for emergency calls

However, in order to solve the problems and the limitations as effectively as possible and to safeguard the people's safety and security, this project has planned to study and compare the emergency management systems in other countries, such as the 112 emergency call in the European Union and 911 emergency call in the United States to arrive at the best possible solution to apply the single emergency number throughout the country. At the same time, this must also be coordinated with all relevant agencies and must abide by the law governing emergency services in Thailand, as well as the frequency spectrum to be used for emergency calls and the analysis of technical, procedural and technological applications of telecommunications channels. Also to be considered is the costs involved in the emergency telephone system as applicable to USO.





**Chart 6: Direction Study of the Emergency Telecommunications Service
as Part of USO
(Emergency Telecommunications Service)**



The outcome of the cooperation in this project will lead to a major change in Thailand in regards to the emergency calls, and the security of the people's lives and properties, the launch of the single centralized frequency and telephone number to meet the international norms and standard. As for the recommendation on how to coordinate the emergency telephone service with the USO making it an emergency notification system that is quicker, more convenient and more accessible to the people, the NBTC will conduct further studies.



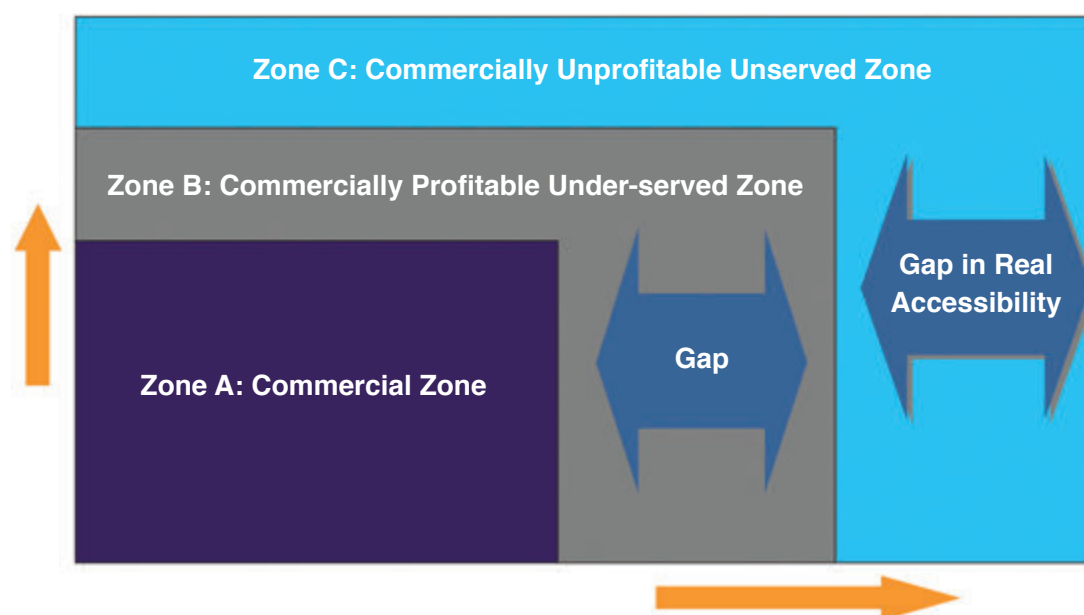


4. Project to map the nationwide telecommunication geography to set as a goal under the Universal Service Obligation Plan 2012-2016

The zoning target is based on the three zoning concepts as in the announcement on the plan of offer wide telecommunication coverage and public service 2012-2016 by using the geographic information system technology in mapping the targeted zones as below:

- Zone A: “Commercial zone”, meaning the areas where the people in the community have ready access under the free market condition in terms of service providers, quality and prices
- Zone B: “Commercially profitable under-served zone”, meaning the areas still not covered entirely by telecommunication service but are expected to have the commercial potential and opportunity. This zone will be developed to become a commercial zone by promoting competition and instituting control measures suitable to the prevailing environment
- Zone C: “Commercially unprofitable un-served zone”, meaning the areas unreached by telecommunication services, and are lacking in the potential and opportunity to develop commercial services under the current market and environmental situation

Chart 7: The Zoning Target Based on the Universal Service Obligation (USO) 2012-2016





Therefore, the zoning targets so as to carry out the telecommunication services and public service, namely the public telephone service, the locations of internet centers for schools and community, and the expansion of telecommunication network to rural areas, all need several types of information, such as the population demography, geography, infrastructure (roadside power lines), and the current available telecommunication services. Also needed are the locations of government buildings and major landmarks as well as their GPS coordinates. All the information needs to be collated and analyzed together with aerial maps in order to be able to pinpoint the areas for the services as well as for planning and budget allocation.

At present, the geographic information system (GIS) technology can be adapted for use in the form of aerial photography to locate target areas for planning. In addition, the NBTC can use the GIS technology to manage the information through the internet network to adjust the NBTC information database, thus significantly reducing the workload. At the same time, officials in the provinces can easily be supported in terms of reviewing and dispatching information from field offices to the headquarters through the internet.

The process and steps in identifying target areas for the coverage of wide telecommunications and public service, the NBTC will collect and compile the database on 73 provinces around the country (Except Bangkok, Nonthaburi, Phitsanulok and Nongkhai whose database is already in hand), along with the information gathered from telecommunications service providers and correlate them with information on different localities received from other government agencies, such as those on population, schools, health centers, geography and other relevant information. Also necessary was the field studies to gather information otherwise unavailable, then apply the geographical information system for correlation to locate target areas for the installation of the telecommunication network and public services as stipulated in the plan.

Furthermore, the NBTC will also prepare web-based GIS to link up the central information with those in the provinces so that the available database can be used to train the NBTC personnel to integrate all necessary tasks among all the agencies involved.

The anticipated results at the conclusion of the project is the availability of the information on the areas targeted for the installation of telecommunications network and public service and the information both on the qualitative and quantitative aspects to be used to set up public telephone services, internet centers for schools and community centers and the effective expansion of the telecommunications network into remote areas of the country along with the public service with clear targets and the setting of median prices for auctioning for concessionaire licenses for the installation of telecommunications network and the public service.





The special four-digit telecommunications number for the disabled hotline No. 1479

On June 6, 2013, the NBTC has organized a special four-digit communications number for the disabled hotline No. 1479 “Workable, Accessible, the Rights to a Better Life”, to the Redemptorist Foundation for People with Disabilities at the Auditorium Building, Office of the NBTC. The NBTC was represented by vice chairman Colonel Dr. Settapong Malisuwan officially presenting the 1479 number to Reverend Patrapong Srivorakul, Redemptorist Foundation vice president. Also attending the ceremony was NBTC Commissioner Dr. Suthiphon Thaveechaiyagarn. This hotline number will provide people with disabilities the opportunity to access information and services which will help promote their quality of life and allow them to live happily in the society.



Figure 5: The Ceremony to Present Hotline for the Disabled No. 1479





Broadcasting and Telecommunications Activities in the International Level

1. Hosting an International Event

The NBTC in cooperation with the Ministry of Information and Communication Technology (MICT) and Thailand Convention and Exhibition Bureau (TCEB) hosted the ITU (International Telecommunication Union) Telecom World 2013 in Thailand, and honored His Majesty King Bhumibol with the Royal Pavilion and displayed the Interactive & Theatre Dome under the theme “Digital Thailand, Digital Community” at the NBTC Pavilion. The ITU Telecom World 2013 was held on November 19-22, 2013, at the Challenger Halls 1-2, IMPACT, Muangthong Thani, Nonthaburi, Thailand.



Figure6: Being Joint host of the ITU Telecom World 2013





During the ITU Telecom World 2013, NBTC Chairman Air Chief Marshal Thares Punsri, ITU Secretary-General Dr. Hamadoun I. Touré and Minister of Information and Communication Technology Group Captain Anudit Nakornatap participated in a panel discussion entitled “Mobile Security Challenges and Policy in the ASEAN Community: Consumer Protection Perspectives” on November 22, 2013, at the Open Space WS1, Challenger Hall, to allow regulators, the world and ASEAN leaders and academics in the field of telecommunications, to brainstorm and exchange views and information at the policy-making level on how best to protect consumers from prevalent dangers in today’s cyber world.



Figure 7: NBTC Chairman Air Chief Marshal Thares Punsri, NBTC Chairman participated in a Panel Discussion on “Mobile Security Challenges and Policy in the ASEAN Community: Consumer Protection Perspectives” at the IUT Telecom World 2013

In addition, NBTC Commissioner Dr. Suthiphon Thaveechaiyagarn participated in a panel discussion entitled “Convergence of Regulations” on November 19, 2013 and then gave a closing speech at the ITU Telecom World 2013 Farewell Party at the Royal Jubilee Ballroom, IMPACT, Muangthong Thani, on November 22, 2013.



Figure 8: NBTC Commissioner, Dr. Suthiphon Thaveechaiyagarn, participated in a discussion on “Convergence of Regulations” at the IUT Telecom World 2013



2. Participation in the Global Symposium for Regulators

2.1 NBTC Commissioner Dr. Suthiphon Thaveechaiyagarn, NBTC Secretary-General Takorn Tantasith and NBTC delegation participated in the 13th Global Symposium for Regulators (GSR) under the theme “4th Generation Regulation: Driving Digital Communications Ahead” on July 3-5, 2013 in Poland. The event was designed for participants to exchange information and consider best practice guidelines for regulators within ITU to apply to the regulating of the telecommunication business in their respective countries. At the symposium, Dr. Suthiphon Thaveechaiyagarn also participated in a panel discussion entitled “Are Standards the Crux of ICT Business in Today’s Digital World?” to exchange opinions and propose policies on Standard Essential Patent Policy/RAND-based Patent Policy.”



Figure 9: The Global Symposium for Regulators (GSR)





2.2 NBTC Commissioner Dr. Sutthiphon Thaveechaiyagarn and Dr. Prawit Leesathapornwongsa participated in the ITU-KCC Asia-Pacific Regulators' Roundtable" in the Republic of Korea. At the event, Dr. Sutthiphon was a keynote speaker on the topic of consumer protection in the digital world in which he present the opinion on the problems and challenges faced by regulators and how the NBTC placed great importance on consumer protection in its regulations of the telecommunication business.



Figure 10: The ITU-KCC Asia-Pacific Regulators' Roundtable

3. Regulators' conference at regional level

3.1 NBTC Commissioner Dr. Sutthiphon Thaveechaiyagarn led a Thai delegation to participate in the 2nd TELSOM-ATRC Leaders' Retreat on September 3-6, 2013 at Yangon, Republic of the Union of Myanmar, during which the utilization of spectrums and the coordination in the 700 MHz were discussed.



Figure 11: The 2nd TELSOM-ATRC Leaders Retreat





3.2 NBTC Commissioner Dr. Sutthiphon Thaveechaiyagarn led a Thai delegation to participate in the 19th ASEAN Telecommunication Regulators' Council (ATRC) on August 19-22, 2013, at Manado, Republic of Indonesia. The delegation from Thailand consisted of representatives from the Ministry of Information & Telecommunication Technology and CAT Telecom Public Company Limited. In the course of the conference, Dr. Sutthiphon presented a report on the development of Thailand's telecommunication business, particularly the problems faced during the 3G auction and the preparations for an auction of the 1800 MHz in conjunction with the application of the application of legal measures in relations to existing users of the old system. The delegation also participated in the exchange of ideas and experience in the field of telecommunication at which the chairmen and Commissioners of ASEAN communication regulatory bodies lauded the NBTC for its success in overcoming obstacles to achieve the successful auction for the 3G service, as well as the NBTC's measures used to remedy the existing users of the 1800 MHz band. The ASEAN regulators at the conference were of a consensus that the NBTC's process was the best possible for the utmost benefit to the consumers while the allocation of the frequency spectrum was also effective and to the best interest of the people as well.



Figure 12: The 19th ASEAN Telecommunication Regulators Council





**Figure 13: Special luncheon Talk and Welcoming ITU Secretary-General,
Dr.Hamadoun I. Touré at the NBTC Office, Bangkok**

4. The meetings with the International Telecommunication Union (ITU) and other foreign regulators

4.1 The NBTC organized a welcome for ITU Secretary-General Dr. Hamadoun I. Touré on May 4, 2013, at the NBTC Office, by NBTC chairman ACM Thares Punsri, NBTC Vice Chairman Colonel Dr. Settapong Malisuwan, Dr. Suthiphon Thaveechaiyagarn and Associate Professor Prasert Silphiphat. Dr. Touré then gave a special luncheon talk under the topic “Thailand and Regulation in a Converged Environment: An International Perspective.”

4.2 The welcome for, and discussion with Chairman of the Malaysian Communications and Multimedia Commission (MCMC), Dato Mohamed SharilTarmizi:

1) NBTC Chairman ACM Thares Punsri gave a warm welcome to MCMC Chairman Dato Mohamed SharilTarmizi and delegation during their visit to the NBTC Office on July 24, 2013. Also on hand for the welcome were NBTC Commissioner Dr. Suthiphon Thaveechaiyagarn, NBTC Secretary-General Takorn Tantasith, NBTC Deputy Secretary General AVM Dr. Thanapa Raicharn, and all relevant NBTC senior staff. At the meeting, the MCMC Chairman discussed with NBTC executives the allocation of 700 MHz.





Figure 14: The Welcome to Dato Mohamed Sharil Tarmizi, Chairman of the Malaysian Communications and Multimedia Commission

2) NBTC Vice Chairman (NBC Chairman) Colonel Natee Sukonrat welcomed the MCMC Chairman Dato Mohamed Sharil Tarmizi at NBTC Office on January 31, 2013, and discussed with the MCMC Chairman on the regulating of radio and television broadcasting businesses in both Thailand and Malaysia. Relevant NBTC senior executives also participated in the discussion and exchange of experience.

3) NBTC Deputy Secretary General AVM Dr. Thanapan Raicharern welcomed MCMC Chairman Dato Mohamed Sharil Tarmizi on April 22, 2013, to the extra-ordinary meeting to review the scope of work of the Coordination and Allocation on the Thai-Malaysian Border Committee and at the meeting of the special working group as well as the preparation of the database on radio spectrum. Several relevant NBTC executives and staff participated at this meeting.





5. Cooperation effort with foreign regulatory bodies

NBTC Chairman ACM Thares Punsri chaired the Memoranda of Understanding (MoU) between NBTC and Telecommunication Regulatory Bodies of Poland and Turkey at the NBTC Conference Center on November 20, 2013. The MoU was meant to foster closer relationship between NBTC and the Polish and Turkish telecommunication agencies. At the same, the three parties also exchanged the current situations in relations to each of the agencies and the development plans in order to enhance the cooperation that will help the Thai telecommunication to grow into a world-class agency in the future.



Figure 15: MOU Signing ceremony between the NBTC and the Information & Communications Technologies Authority of Turkey, and the Office of Electronic Communications of Poland



6. Cooperation on spectrum on Thailand's border with neighboring countries

In 2013, the NBTC Commissioners has assigned the NBTC to send relevant personnel to attend meetings, as well as to host meetings to discuss the cooperation in regards to the interference between the frequencies for radio, television and other telecommunication broadcasts on Thailand's border with neighboring countries to lessen such interferences and to plan for the most beneficial utilization of radio frequencies in border areas. These are:

6.1 NBTC deputy secretary General AVM Dr. Thanapan Raicharern participated in the 18th Thailand-Laos Joint Committee (JC) at the invitation of the Ministry of Foreign Affairs at the Hilton Hua Hin Hotel on March 31 to April 3, 2013. At the meeting, the NBTC proposed the cooperation and coordination as well as the allocation of spectrum on the Thailand-Laos border with to resolve the interference issues.

6.2 NBTC deputy secretary AVM Dr. Thanapan Raicharern led and working team to participate in the 8th Special Task Force meeting and the 23rd Thailand-Malaysia Joint Technical Committee (JTC-23) in Malacca, Malaysia, on June 24-28, 2013. The main goal of the meetings was to coordinate the spectrum management to avoid interference in radio, television and other telecommunication broadcasts along the Thai-Malaysian border, as well as to plan the spectrum management along the border for the highest benefit. At the meeting, AVM Dr. Thanapan signed the Agreed Minutes with his Malaysian counterpart on behalf of Thailand.

6.3 NBTC Deputy Secretary General AVM Dr. Thanapan Raicharern led the Thai delegation to participate in the 4th Thailand-Laos Joint Technical Committee (JTC-4) in Pakse, Champasak, Laos, on September 24-26, 2013. The goal of the meeting was to manage the frequency interference along the border between the two countries. The Agreed Minutes were signed by both parties.





6.4 NBTC Deputy Secretary General AVM Dr. Thanapan Raicharern led and working team to participate at the 24th Thailand-Malaysia Joint Technical Committee (JTC-24) at the Centara Beach Hotel, Samui, Thailand, on December 10-12, 2013. The main goal of the meeting was to manage the frequencies to avoid interference in radio, television and other telecommunication broadcasts along the Thai-Malaysian border, as well as other relevant tasks in regards to telecommunications and radio communication. The meeting also discussed the problems concerning the interference between Thailand's WCDMA850 cellular system and Malaysia's GSM900 system. The joint measurement report completed on December 9, 2013 was discussed at the meeting along with the cooperation plan for joint usage of radio and television broadcasts in the 800/900 MHz and E-band (71-76 MHz and 81-86 MHz). AVM Dr. Thanapan signed the Agreed Minutes with his Malaysian counterpart on December 12, 2013.





The Relationship with the Government and Parliament

1. Meetings and Discussions with Parliament

In 2013, the NBTC Board and the NBTC executives have held regular meetings and discussions with Parliament through the Senate and the House of Representatives in order to develop the policy to regulate radio and television broadcasting and telecommunication for the benefit of the people in accordance with the law. The summation of the meetings and discussions with Parliament, study trips and the exchanges of information on the management of broadcast, television and telecommunication policy is as follow:

Table 7: The Summary of Meetings, Study Visits and Exchanges of the Experience Seminar on Broadcasting and Telecommunications Business in 2013

Sequence	Committee/sub-committee	Date
1	House Committee on Communications and Telecommunications	January 24, 2013 September 12, 2013 November 14, 2013
2	Senate Committee on Science, Technology, Communications and Telecommunications	February 19, 2013 April 25-27, 2013 (Study trip to NBTC Zone 4, Songkhla Province) July 9, 2013 September 17, 2013
3	House Committee on Consumer Protection	March 7, 2013 September 5, 2013
4	House Committee on Political Development, Mass Communications and Public Participation	November 20, 2013
5	House Committee on Constitutional Agencies, State Enterprises, Public Organizations and Funds	November 27, 2013

Source: Broadcasting and Telecommunications





2. Cooperation with the Government

1) AOC Signing with Thai Public Broadcasting Service (Thai PBS): The Agreement of Cooperation between NBTC and Thai PBS on the switching of television broadcasting from analog to digital was signed in a ceremony at Centara Grand Central Ladprao Hotel on January 19, 2013. The MoC called for the joint effort to switch television broadcasting to the digital system to boost the effectiveness of broadcasting on UHF spectrum to be on line with the NBTC announcement to change the Thai PBS terrestrial broadcasting to the digital system and to provide the public with sharper and higher quality television reception.



Figure 16: The Memorandum of Cooperation between the NBTC and the Thai Public Broadcasting Service on the Transition to the Digital Television Broadcasting





2) MOU Signing with the Ministry of Information and Communication Technology:

NBTC Chairman ACM Thares Punsri represented the NBTC to give a keynote speech and sign a memorandum of understanding on free-to-public high-speed internet service via Wi-Fi project with the ICT Ministry represented by ICT Minister Group Captain Anudit Nakornatap at the 2nd floor NBTC Conference Center, on May 3, 2013. This landmark cooperation will provide the equal opportunity to the Thai people to be able to access telecommunication technology on an equal footing so as to improve the quality of life and increase the Thai people's competitiveness on the world arena. Attending the ceremony on behalf of the NBTC were Col Settapong Malisuwan, Asst. Prof. Prasert Silphiphat and Prawit Leesathapornwongsa. For the ICT Ministry, Ministry Inspector Somchai Baimuang was present.



Figure17: MOU Signing on Free-to-public high-speed internet Service via Wi-Fi Project between the Ministry of Information and Communication Technology and the National Broadcasting and Telecommunications Commission (NBTC)





3) MOU Signing to establish a laboratory for testing the technical aspects of broadcasting. At a ceremony held at the 2nd floor NBTC Conference Center on August 19, 2013, NBTC Chairman ACM Thares Punsri gave a keynote speech, while NBTC Secretary General Takorn Tantasith signed the MoU with representatives from 31 entities from the public and private sectors and universities to establish a laboratory for testing the technical aspects of broadcasting.



Figure 18: MOU Signing on the Establishment of a Laboratory for Testing the Technical Aspects of Broadcasting





4) MoU Signing between NBTC and the International Foundation for Disabled persons and Thailand Foundation for the Blind. The ceremony was chaired by General Sukit Khamasunthorn, NBTC Commissioner, and the MoU was signed by NBTC Secretary General Takorn Tantasith and Prof. Viriya Namsiripongpan Chairman of the International Foundation for Disabled Persons and Virat Sritulanond Chairman of the Thailand Foundation for the Blind, at the NBTC Office on October 10, 2013. The MoU was for the project to establish the information service under the telecommunication network's Daisy System.



Figure19: MOU Signing Ceremony between the NBTC and the International Foundation for Disabled People and Thailand Foundation for the Blind

5) MOU Signing on academic cooperation. NBTC Chairman ACM TharesPunsri gave a key note speech at the MoU signing ceremony on academic cooperation between NBTC and the Chulachomklao Military Academy at 2nd floor NBTC Conference Center on November 4, 2013. The MoU covered the academic support on technology, education, research and laboratory works in the fields that both agencies have the expertise in. This is in order to develop the capability and technical management to support the national and international competitiveness well into the future.





Figure 20: MOU Signing Ceremony on Academic Cooperation between the NBTC and Chulachomklao Military Academy

6) MOU signing between NBTC and King Mongkut's Institute of Technology Ladkrabang (KMITL). The MoU signing ceremony was presided by Gen Sukit Khamasunthorn, NBTC Commissioner, and also signed by NBTC Secretary General Takorn Tantasith and KMITL Rector Prof Dr. Thawil Puengma at NBTC Office on November 15, 2013. The MoU was for the project to study and analyze the establishment of the emergency number service under the universal service obligations (USO).



Figure 21: The MOU Signing Ceremony on Academic Cooperation between the NBTC and the King Mongkut's Institute of Technology Ladkrabang



Section 3

Major Achievements of NBTC in 2013



Major Achievements of NBTC in 2013

The National Broadcasting and Telecommunications Commission (NBTC) in 2013 has continued its roles in accordance with the law by adhering to the most important task – to allocate frequency spectrum, to regulate the business as necessary according to the basic laws by taking into consideration the people's communication freedom, and to enforce set rules and regulations that will allow for substantive implementation, leading to fair and free competition. At the same time, it aimed to promote freedom of communication and ethical responsibility toward the profession as well as to the society for the utmost benefit to the country and people. Some of the results of the operations are:

Regulating the switch of television broadcasting to the digital system

The NBTC has set policy guideline, ways and timeframe within which to transition the television broadcasting to the digital system, thus:

1. The master plan on spectrum management of 2012 and the 1st Broadcasting Master Plan (2012-2016) have set the strategy to transition analog to digital as one of the most important strategy in the Master Plans. This is to conform with the policy of Yinglax Shinawatra Government as delivered to Parliament on August 23, 2012 that it would promote the proliferation of radio and television broadcasting both in the public and private sectors as well as the technology switch from analog system to digital system. This also entails the highest benefit to the people and the country through the NBTC in cooperation with relevant government agencies

2. The NBTC has set the standard for digital broadcasting, by submitting the draft standards to the Cabinet for approval. The Cabinet acknowledged the NBTC agenda at its 16/2012 meeting on April 30, 2012, thus setting the Second Generation Digital Terrestrial Television Broadcasting System (DVB-T2) as the digital terrestrial broadcasting standard for Thailand

3. The NBTC Notification on the plan to switch to digital broadcasting for radio and television which was published in the Royal Gazette on December 21, 2012, set out the policy and timeframe to be used in the process of switching the broadcasting system from analog to digital by referring to the International Telecommunication Union plan and timeframe in accordance with the NBTC directive as stipulated in the spectrum management Master Plan of 2012





and the 1st Broadcasting Master Plan (2012-2016). The process for the Plan to switch the frequency to digital and its management are:

1) Designate UHF band for digital broadcasting according to the spectrum management national Master Plan and timeframe

2) Spectrum planning would take into account both the single frequency network (SFN) and multi frequency network (MFN) by considering possible interference and the potency of the frequency

3) Careful consideration of the utilization of the existing network and facilities for the most effective benefit and to jointly exploit the existing network and facilities

4) Careful consideration of neighboring countries' spectrum and existing bilateral and multi-lateral agreements

5) The ability to service nationally, regionally, and locally through technical zoning, as well as having adequate spectrum for use during simulcast periods on both analog and digital systems

4. To support the switch from analog to digital broadcasting, the NBTC has enacted the NBTC technical Notification as follow:

1) The NBTC Notification on the digital terrestrial television broadcasting plan to maximize the effectiveness of the spectrum utilization without interference through the use of modern digital technology which will benefit the consumers and the industry overall especially during the simulcast on both digital and analog systems. This is in compliance with the former analog terrestrial television broadcasting plan of 1996 with the following provisions:

(1) The spectrum are to be 510-790 MHz

(2) The bandwidth to be used is 8MHz

(3) Channels to be used are 26 to 60, making a total of 35 channels

(4) Service zones are divided into 39 zones, consisting of 39 main stations and 114 sub-stations

(5) Should be able to handle 5 MUX per zone (during the transition period to digital)

2) The NBTC Notification on technical standard for digital terrestrial service to give access to the people the television broadcasting service that is standardized, high quality and varied through modern technology and effective spectrum management. This technical standard specifies the minimum technical requirements for free-to-air digital terrestrial broadcasting under the DVB-T2 system at 510-790 MHz and 8 MHz bandwidth.





3) The NBTC Notification on technical standard for digital terrestrial receivers to allow the consumers to use the television receivers as specified so that the reception will be of high standard and quality through modern technology which translated into effective consumer protection and of high benefit to the industry in the big picture.

5. To lay the ground works for the digital broadcasting as detailed above, the NBTC has promulgated NBTC Notification in relations to the permits as detailed below:

1) The NBTC Notification on the criteria and the process to apply for additional permits for digital terrestrial broadcasting so that the potential service providers would know the criteria and the application process for additional permits which were added to the NBTC Notification on the criteria and application for broadcasting services of 2012.

2) The NBTC Notification on the criteria and application for television broadcasting services of 2013, which was aimed at potential applicants to know of the required qualifications, application criteria and process as well as all the necessary documents and information needed for approval. Also included were consideration process, timeline and limitations for the frequency applied for, and the necessary conditions for permits for digital broadcast.

3) The NBTC Notification on the criteria and consideration process for spectrum used for radio and television broadcasting for business purposes of 2013, was aimed at the potential applicants for permits who would then know in advance of the available spectrum, the criteria and process as well as other conditions.

4) (Draft) NBTC Notification on criteria, process and conditions for spectrum auction for digital television broadcasting for nationwide business of ..., which has gone through the public hearing process on June 27, 2013 consisting of participants from any sectors including service providers, the public and relevant government agencies to collect and compile recommendations and ideas from all concerned to be considered for the final NBTC Notification on the criteria, process and conditions for spectrum auction for digital television broadcasting nationwide.





Operations under the Spectrum Management Master Plan (2012)

The Spectrum Management Master Plan of 2012 which was announced on April 4, 2012, has set out the vision, mission and goals on the nation's spectrum management and has set six strategies to reach the goals as set out in the Master Plan: (1) Operations in connection to international spectrum; (2) The reversion of spectrum to be reallocated or improved; (3) The utilization of spectrum for national security; (4) The utilization of spectrum for protection and alleviation of natural disasters and public services; (5) The transition to digital television broadcasting; and (6) The preparation for the general public to avail of the radio and television.

In addition, the Spectrum Management Master Plan of 2012 has also set the direction for the spectrum management in order to reach the set goals by requiring the NBTC to implement the master plan by preparing the radio spectrum plan, as well as the NBTC operation plan which includes work plan, projects, activities responsible units, timelines, current spectrum usage database, indicators and the guideline for evaluation within the framework of the Spectrum Management Master Plan. At the same time the resources needed to successfully carry out the aforementioned tasks must also be acquired along with the coordination with relevant agencies. The operations in regards to the Master Plan must also follow the government policy that has been delivered to Parliament and already included in the NBTC operation plan.

After the Spectrum Management Master Plan of 2012 has been officially announced on April 4, 2012, the NBTC has carried out the following operations to comply with the stated plan:

1. Operation plan under the Spectrum Management Master Plan of 2012

1) The NBTC has assigned NBTC Office to draw up the operation plan to bring the master plan to fruition so as to lay the groundwork for the development of usage of the country's spectrum on a continuous and effective basis considering the current economic, social and technological environment. The operation plan should be carried out on an urgent basis and should support the six strategies of the master plan.

2) The NBTC, through the Spectrum Management Department, was tasked with the coordination with other relevant work groups to collect information, evaluation and plan preparation under the master plan and to present the operation plan to NBTC in due course. There are 13 working groups involved and two meetings have been held among the groups and the results evaluated and prepared for the draft of the operation plan which will include a total of 37 work plans /





projects / activities, as well as the responsible agencies, timelines, indicators and evaluation plans that will cover the master plan through 2016.

3) The NBTC in its 1/2014 meeting on January 15, 2014 has approved the operation plan under spectrum Management Master Plan 2012 that the NBTC Office has been mandated to follow.

2. The evaluation of the operation plan under the Spectrum Management Master Plan of 2012

1) The Spectrum Management Master Plan of 2012 required the NBTC to follow up and evaluate the spectrum management and to adjust the master plan to achieve the highest effectiveness and to keep up with the technological progress every two years.

2) The NBTC considered the effectiveness evaluation of the operation plan of the Master Plan to be of utmost importance as expressed in Article 48, Paragraph Three of the Agency Allocating Spectrum and Regulating Radio Broadcasting Television and Telecommunication Act of 2010 that entrusted NBTC with the responsibility to follow up and evaluate the operation plan so that the Master Plan may be adjusted or amended as necessary so that the spectrum management will be effective and aligned with the changing technologies. At the same time, opinion of the public, the service providers and the relevant government agencies will have to be considered. All the collected data is then presented to the NBC and the NTC for consideration (NBC meeting 30/2013 on August 19, 2013 and the NTC meeting 31/2013 on August 29, 2013, respectively) before being proposed to NBTC to evaluate the Master Plan operation as it sees fit.

3) The NBTC at its meeting 10/2013 on October 16, 2013, considered the evaluation procedure of the Spectrum Management Master Plan of 2012 and reached an agreement in principle to appoint the sub-committee on the evaluation procedure which must consist of representatives from both the NBC and the NTC.

4) The NBTC at its meeting 1/2014 on January 15, 2014, approved the appointment of the sub-committee on the evaluation procedure for the Spectrum Management Master Plan 2012 which is endowed with the power to evaluate the Master Plan as well as the operation of the NBTC Office in regards to the said Master Plan, and to study, analyze, screen and make recommendations that will benefit the update of the master plan overall, and any related matters.

5) The NBTC has released order 10/2014 signed on February 5, 2014, to appoint the sub-committee on the evaluation procedure for the Spectrum Management Master Plan endowed with the power to evaluate the Master Plan as well as the operation of the NBTC Office in regards to the said Master Plan, and to study, analyze, screen and make recommendations that will benefit the update of the Master Plan overall, and any related matters, all of which are being carried out as per appointment.





3. The revision of the national spectrum scale

1) The Spectrum Management Master Plan 2012 indicates the details of the entire frequency range available in Thailand “National Spectrum Range” as an addendum to the master plan in order to conform to Article 27 and the first paragraph of Article 47 of the Agency Allocating Spectrum and Regulating Radio Broadcasting and Telecommunication Act of 2010.

2) The national spectrum range was aimed at clearly designating the spectrum range for the radio and television broadcasting, communication, telecommunications and other activities for use under the conditions stipulated in the international radio spectrum range (region 3) based on spectrum range in Article 5 of the International Telecommunication Union’s (ITU) Radio Regulations Edition of 2008. However, the ITU has amended this article following the World Radio Conference 2012 (WRC-12) with the new Radio Regulations Edition of 2012 which became effective as from January 1, 2013.

3) The NBTC meeting 7/2013 on July 17, 2013 considered that in order to manage the spectrum, which is deemed to be a national resource, effectively and to adhere to the Kingdom of Thailand Constitution of 2007, as well as the Spectrum Management Master Plan, the National Spectrum Range and the International Radio Spectrum Range, the NBTC Office was tasked with coming up with the most suitable spectrum to be utilized by studying the cases of international regulators and the telecommunication and radio, television industries. The meeting also approved the appointment of the sub-committee to take charge of the aforementioned consensus proposed by the NBTC Chairman to be made up of experts/academics to be nominated by the NBTC Chairman, NTC Chairman, NBC Chairman and relevant NBTC officials.

4) The NBTC enacted Order 98/2013 dated October 14, 2013 appointing the sub-committee to study and recommend the updates of the national spectrum vested with the power to study, analyze and recommend ways to update and adjust the national spectrum to conform with the international regulations and the current usage, and the policy on future spectrum usage of Thailand. Also relevant is the plan to allocate/adjust the spectrum usage following the strategies as stated in the Spectrum Management Master Plan 2012. The sub-committee is now working the assigned tasks.

The achievements in relations to the Spectrum Management Master Plan of 2012

The achievements during 2012-2013 in relations to the Spectrum Management Master Plan of 2012 are as follow:





Strategy 1: Strategic Operations in Connection to International Spectrum

Strategy Driven Approach:

1. Support the international cooperation on spectrum management by putting the importance on national interest

Major achievements:

1.1 Preparations for international spectrum management especially in regards to one of the most important international conferences on spectrum management – the World Radio Conference 2015 (WRC-15), by setting up a Thailand working team and preparing Thailand's contribution to be included in the agenda at the WRC-15.

1.2 Appointing representatives from Thailand to attend meetings concerning spectrum management under the international framework, and with regional agencies and bilaterally, putting the importance on national interest.

1.3 Assigning the cooperation with agencies in charge of international relations under the international cooperation framework which included the technical exchanges and lecture and speaking engagements in seminars with accent on spectrum management.

2. Cooperation to protect and resolve problems in relations to international spectrum management, on the part of international agencies, international committee on spectrum usage, regulators and related service providers

Major achievements:

The NBTC Office has proceeded to protect and resolve problems in relations to international spectrum management in accordance with Article 27 (14) and (15) of the Agency Allocating Spectrum and Regulating Radio and Television Broadcasting and Telecommunication Act of 2010, by using three types of approach: (1) The cooperation on spectrum through letters to resolve the interference problems; (2) Meetings on spectrum coordination through the Joint Technical Committee (JTC) and/or the JTC task force (3) The notifications of the spectrum and telecommunication station registrations to the ITU or the JTC.





3. Cooperation with controlling agencies and telecommunication service providers through satellite with footprints over Thailand

Major achievement:

The NBTC Office has proceeded to cooperate with controlling agencies and telecommunications service providers through satellite with footprints over Thailand in accordance with Article 27 (14) (15) and (22) of The Act on Organization to Assign Radio Frequency and to Resolute the Broadcasting and Telecommunications Service P.E. 2553 (2010) by using two types of approach: (1) Coordination on the satellite spectrum through letters, including the filing of complaints on satellite footprints which may interfere with Thailand's satellite network in accordance with the ITU regulations, (2) Meetings to coordinate satellite frequencies.

Strategy 2: Strategy on the Reversion of Spectrum to be Reallocated or to Improve Usage

Strategy driven approach highlighted on the cases of reversion of spectrum to be reallocated or to improve usage, as follow:

1. In the cases of government agencies, state enterprises or government units that assign spectrum to service providers through permits, concessions and legal contracts which have been approved by NBTC – that have to return such spectrum upon the expiry of those permits, concessions and legal contracts

Major achievement:

1.1 Draft the conditions for the inspection of the usage of the spectrum and the necessity for the ownership of the spectrum and the conditions for the inspection of the legal aspects of the permits, concessions or contracts.

1.2 In the process of checking the details of the usage of the spectrum and the necessity for the ownership of the spectrum and the conditions for the inspection of the legal aspects of the permits, concessions or contracts based on Articles 82, 83 and 84 of The Act on Organization to Assign Radio Frequency and to Resolute the Broadcasting and Telecommunications Service P.E. 2553 (2010), and setting the timeline for the reversion of the spectrum for reallocation or adjustment for more proper usage.

1.3 In the process of preparing the database for the reversion of the spectrum once upon the expiry of the permits, concessions or contracts.

1.4 The appointment of the sub-committee to oversee the permit for the use of 1800 MHz (dated April 19, 2013).





1.5 In the process of initiating a project study to set the format and conditions for granting the permits for the usage of 1800 MHz and the spectrum in the range whose concession period for cellular telephone services will expire (in cooperation with ITU consultants/experts).

1.6 In the process of preparation for granting the permits for the usage of 410-450 MHz for telecommunication services in vehicles for hire (taxi cabs).

2. In the case of those in possession of legal permits for use of spectrum are required to revert the spectrum upon the expiry of the permits

Major achievements:

2.1 In the process of checking the details on the usage of the spectrum and the necessity for ownership of the spectrum based on Articles 82, 83 and 84 of The Act on Organization to Assign Radio Frequency and to Resolute the Broadcasting and Telecommunications Service P.E. 2553 (2010) and the timeline for the reversion of the spectrum for reallocation or adjustment for more proper usage.

2.2 In the process of preparing the database for the reversion of the spectrum once upon the expiry of the permits, concessions or contracts.

3. In the case of those who hold legal permits for the use of spectrum that do not have expiry dates, the NBTC will set the timeline for the expiry of the spectrum usage by considering the interest of the public and the necessity of the operation in conjunction with the spectrum usage

Major achievements:

3.1 In the process of checking the details of the usage of the spectrum and the necessity of the operation based on Articles 82, 83, and 84 of The Act on Organization to Assign Radio Frequency and to Resolute the Broadcasting and Telecommunications Service P.E. 2553 (2010) and to set the timeline for the expiry of the spectrum so they can be reallocated or their usage adjusted.

3.2 In the process of preparing the database for setting the timeline for the reversion of the spectrum.

Further, the reversion of other spectrum should follow the criteria for reversion to be reallocated or adjusted as specified by the NBTC.

Strategy 3: The Strategy on the Utilization of Spectrum for National Security as Necessary

Strategy Driven Approach

1. Prepare the mechanism for the management of spectrum in cooperation with national security agencies so that the spectrum will be available for use by national security agencies as necessary on radio and television broadcasting.





Major achievements:

1.1 The appointment of the sub-committee on the coordination on Spectrum on Broadcasting Management for national security apparatus on September 11, 2012.

2. Setting up the guideline on Spectrum on Broadcasting management for national security public services

2.1 Setting up time slots allocations on radio and television broadcasting for national security matters.

2. Prepare the mechanism for the management of spectrum in cooperation with national security agencies so that the spectrum will be available for use by national security agencies as necessary for communication and telecommunication purposes.

Major achievements:

2.1 The appointment of the sub-committee on the coordination on spectrum management for national security apparatus for communications and telecommunications and the working group to coordinate the spectrum management for national security in regards to communications and telecommunications.

2.2 Setting up the guideline on spectrum management for national security agencies in regards to communications and telecommunications.

2.3 Preparing the Spectrum Management Plan and operation plan for national security agencies in regards to communications and telecommunications

Strategy 4: Strategy on the Utilization of Spectrum for Protection and Alleviation of Natural Disasters and Public Services

Strategy Driven Approach:

1. Allocate the spectrum to be used in tasks of public protection and disaster relief and in cases of emergency and natural disasters

Major achievements:

The NBTC has set aside the spectrum for use in tasks of public protection and disaster relief including in emergency situation arising from natural disasters (the permit is for the setting up of communication and relay network) on a continuous basis with no less than 90 percent success rate.





2. Setting up the guideline for spectrum to be used in tasks of public protection and disaster relief and in cases of emergency and natural disaster including for public services

Major achievements:

2.1 The sub-committee on telecommunications for protection and disaster relief has been set up

2.2 Setting up the guideline for agencies using telecommunication equipment in the tasks of protection and disaster relief for public services.

3. Promote the effective use of radio spectrum for protection and disaster relief

Major achievements:

3.1 Launched the training for volunteer amateur radio on the proper action in time of disaster. The training took place in 2013.

3.2 Two preparedness drills in times of emergency and disaster were held in 2013, and 14 drills were planned for 2014.

Strategy 5: Strategy on the Transition to Digital Television Broadcasting

Strategy Driven Approach

1. Prepare the plan to switch to the television broadcasting in the digital system, complete with the details on the reversion of the spectrum, the allocation of spectrum, the start of digital broadcasting within four years from the date the Master Plan on Spectrum Management becomes effective and the appropriate deadline for the cessation of the broadcasting in the analog system.

Major achievements:

1.1 Releasing the NBTC announcement on the plan to switch terrestrial broadcast to the digital system and published in the Royal Gazette on December 21, 2012, which set out the policy and timeframe as guideline for the process to change the broadcasting system from analog to digital.





1.2 Setting the mechanism to support the process to switch terrestrial broadcast to the digital system through a sub-committee and relevant working team, as well as to issue an NBTC announcement to the effect.

1.3 Preparing the measures to support the public in the switch to the digital broadcasting. (With coupons or discounts on television reception equipment purchase)

1.4 Initiating the process to calibrate the signal, check the service quality and adjust the frequency plan for the digital terrestrial broadcasting beginning in 2013 and to complete in 2015.

Strategy 6:

Strategy on the Preparation for the General Public to Avail of the Radio and Television Broadcasting Spectrum

Strategy Driven Approach:

1. To release the announcement on the conditions for the granting of permits to the general public for the use of radio and television broadcasting spectrum within four years as from the date of the master plan on spectrum management came into effect.

Major achievements:

- 1.1 Releasing the NBTC Notification on the conditions of the test broadcasting.
- 1.2 In the process of preparing for the use of the spectrum used for the terrestrial broadcast in the digital system for community service.

2. Allocate the spectrum to the public sector for temporary broadcasting during such time that the announcement on the use of terrestrial television broadcasting still has not come into effect particularly in areas that already have adequate spectrum to be allocated.

Major achievements:

The NBTC has already released the NBTC Notification on the plan to switch the television broadcasting to the digital system in 2012.





The management and Allocation of Spectrum

In 2013, NBTC has implemented the spectrum management policy and plan as well as the spectrum allocation and permit grants as follow:

1. Broadcast and television business

1) The NBC on behalf of NBTC in connection with the broadcasting and television business organized an auction for a total of 24 channels of digital television broadcasting in the type of national business, the detail of which is presented in Part 2.

2) The NBC has issued license for television broadcasting as per conditions in the relevant NBTC announcements. As of December 16, 2013, a total of 1,226 license were granted, broken down into 822 permits for service (television channels), 400 permits for network service and four permits for facilities, as shown in Table 8 below:

Table 8: Number of Licensees on Radio and Television Broadcasting Business

Type	Number of permits
Permits for television channels	804
Permits for networks:	266
• National level	27
• Regional level	50
• Community level	189
Permits for facilities	5
Total	1,075

Source: Group of Licensing 1-3

3) The NBC has issued license for test broadcasts as per conditions in the NBTC announcement on the conditions for the issuing permits for test broadcasts. The latest report on December 31, 2013 showed 3,402 stations were issued the said permits, divided into 2,326 commercial stations, 629 community stations and 447 public service stations.





2. Telecommunication and television operations

1) The telecommunication operation that the NBTC has granted license for the use of IMT frequency on the 2.1 GHz range and the type-3 telecommunication license to Advance Wireless Network Co., Ltd. (AWN), Real Future Co., Ltd. (RF) and DTAC Network Co., Ltd. which later changed its name to DTAC Trinet Co., Ltd. (DTN) for telecommunication operations on international 2.1 GHz spectrum range on December 7, 2013.

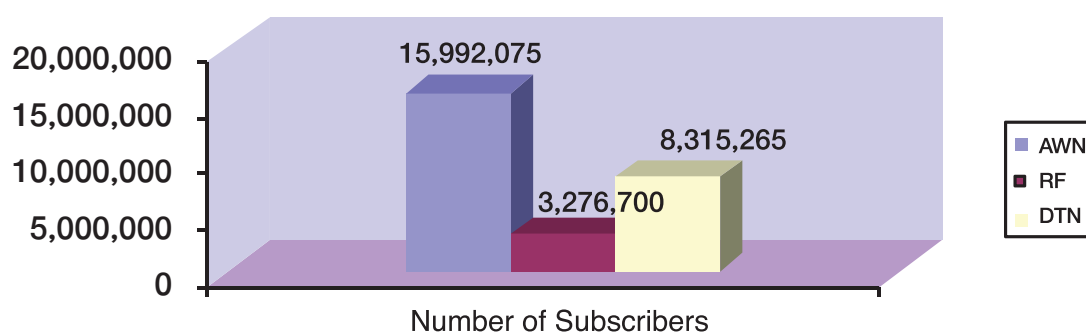
All three operators – AWN, RF and DTN – who were awarded the 2.1 GHz permits, have already launched their services with the number of subscribers as of December 31, 2013 shown in Table 9 and in Graph 8.

Table 9: Information on the Operation and Number of International Mobile Users in 2.1 GHz

Progress of Operation	Launch Date	Number of Subscribers
Advance Wireless Network Co., Ltd. (AWN)	May 7, 2013	15,992,075
Real Future Co., Ltd. (RF)	May 8, 2013	3,276,700
DTAC Trinet Co., Ltd. (DTN)	July 23, 2013	8,315,265

Source: Group of Service-based Telecommunications Business Licensing 2

Graph 8: Number of International Telecommunication in the 2.1 GHz Spectrum Range Subscribers in 2013



Source: Group of Service-based Telecommunications Business Licensing 2





In 2013, the NBTC Office released Order 70/2013 dated April 11, 2013, to appoint the working group on the monitoring and control of the international telecommunication operations on spectrum range 2.1 GHz and Order 85/2013 dated May 8, 2013, further empowering the aforementioned working group to monitor and control the pricing of the services of the international telecommunication operations on spectrum range 2.1 GHz to allow for the thorough, complete and effective monitoring and control of the telecommunication permit holders to ensure that conditions are fully met. Also to allow for the collection and analysis of the international telecommunication operations on spectrum range 2.1 GHz so that the progress and trend of the cellular telephone and broadband industry can be assessed.

In the setting of policy and plan for the spectrum management, the NBC has made preparations in the case of the expiration of the 1800-MHz cellular telephone service in 2013 by appointing a working team to study the conditions for the permits on the 1800 MHz by cooperating with the International Telecommunication Union (ITU) on the conditions for the permits and the pricing for the 1800-MHz cellular telephone service, the consideration of which is still underway. The NBC meeting has also recognized that the current trend for many countries is to allocate more than one spectrum at the same time and therefore has tasked the ITU experts and advisors to study the pro and con of the 1800 MHz and 900 MHz as well as the possibility of separate auctions for each or a bundled auction for both, or any other possibilities to be used to make a decision on the conditions for future spectrum auctions.





3. Radio Communication Operation

The summary of important parameters for the allocation of spectrum and the granting of radio communication permits in 2013 are:

- 1) The granting of radiocommunication permits in 2013 is shown in Table 10:

Table 10: Radiocommunication Licensing

Number	Type of permit/certificate	Centrally in 2012	Centrally in 2013
1	Production of radiocommunication equipment	256	233
2	Import of radiocommunication equipment	4,628	4,227
3	Export of radiocommunication equipment	1,607	1,622
4	Sale and repair of radiocommunication equipment	1,093	1,148
5	Use of radiocommunication equipment	66,226	94,549
6	Setting up of radiocommunication station	10,186	22,127
7	Possession of radiocommunication equipment	28,744	35,823
8	Radiocommunication operator	6,975	7,121
9	Reception of foreign radiocommunication for commercial purposes	-	-
10	Replacement permit for radiocommunication	473	343
11	GOC and ROC operator certificate	426	329
12	Primary radio amateur certificate	18,108	11,385
13	Medium-class radio amateur certificate	42	-
14	Fishing boat certificate	-	-
15	Certificate for radiocommunication synthesizer	1,627	1,336
16	Replacement certificate for primary radio amateur	194	173
	Total	140,595	180,416
17	Label for standard conformation	4,025,511	3,800,657

Source: Group of Radiocommunication Licensing





2) Permits for use of radio communication equipment and for radio communication stations

In 2013, there was an allocation of spectrum to be used for telecommunication and radiocommunication, including the allocation of new spectrum and reallocation of existing spectrum for the public sector, general public, social agencies, local administrations, embassies and the private sector to support and promote the country's radiocommunication activities totaling 365 spectrum as in Table 11.

Table 11: Number of International Telecommunication in the 2.1 GHz range subscribers in 2013

Sequence	Agency	Number (Frequency) 2012	Number (Frequency) 2013
1	Government agencies	54	38
2	State enterprises	9	209
3	Embassies	2	-
4	Private enterprises	137	118
	Total	202	365

Source: Group of Radiocommunication Licensing

In addition, Operation permits were granted for 3,007 transceivers and 274 stations as detailed in Table 12.

Table 12: Permits Granted for Radio Stations and for use of Radio Transceivers in 2012-2013

Agency	2012		2013	
	Station	Transceiver	Station	Transceiver
Local administration	2,786	6,665	124	674
Government & state enterprises	1,701	10,663	92	1,573
Companies/limited partnerships	219	1,452	58	760
Total	4,706 stations	18,780 units	274 stations	3,007 units

Source: Group of Radiocommunication Licensing





Release of Important NBTC Notifications on Broadcasting and Telecommunications

1. The release of NBTC Notification in regards to radio broadcasting and television

In 2013, the NBTC has developed important conditions and control mechanism for the issuance of operation permits and control of the radio broadcasting and television business in accordance with the first strategic master plan on broadcasting and television of 2012-2016, as well as the transition of Thailand's television broadcasting as shown in Table 13.

Table 13: List of the NBTC Notifications on Radio Broadcasting and Television in 2013

Announcement	Number (issue)
On technical standards of broadcasting equipment	2
On the transition to the digital service	2
On the management and allocation of spectrum	3
On permits	2
On the control of television broadcasting	5
On the control of fee and service charge collection on television broadcasting	1
On the promotion of competition	6
On the development and promotion of the profession and development of broadcast personnel	1
On the protection of consumers in the broadcasting and television business	2

Source: Group of Legal Broadcasting

2. The Notification of the NBTC in Telecommunications

In 2013, the NBTC has developed important conditions and control mechanism for the issuance of operation permits and control of the telecommunication service in accordance with the first strategic master plan on telecommunications of 2012-2016, as shown in Table 14.





**Table 14: List of the NBTC Notifications on Telecommunication
and Radiocommunication Service in 2013**

Announcement	Number (issue)
On technical standards of telecommunication equipment	6
On the management and allocation of spectrum	1
On the management of telecommunication service	2
On the management of radiocommunication	5
On the control of fee and service charge on telecommunication	-
On the provision for basic telecommunication infrastructure and public service	2
On the utilization and linkage in telecommunication	2
On the promotion of competition	1
On the protection of consumers in the telecommunication service	1

Source: Group of Legal Telecommunications





Major Achievements of the National Broadcasting Commission (NBC) in 2013

After the First Broadcasting Master Plan 2012-2016 became effective, the NBTC by the National Broadcasting Commissioner (NBC) has assigned the NBTC Office to proceed according to the strategies as stipulated in the master plan. These strategies are:

- 1) Strategy on permits for spectrum utilization and for broadcasting and television operation
- 2) Strategy on the management of the broadcasting and television operation
- 3) Strategy on consumer protection in relations to broadcasting and television operation
- 4) Strategy on the promotion of telecommunication freedom
- 5) Strategy on the quality development of the business
- 6) Strategy on the transition of the broadcasting and television operation to the digital system
- 7) Strategy on the development of the management into an efficient regulatory body





Strategy 1: Strategy on permits for frequency utilization and for broadcasting and television operation

Strategy Driven Achievements:

In 2013, the NBC has followed the mission and vision of the First Broadcasting Master Plan (2012-2016) as published in the Royal Gazette on April 4, 2012 with the progress in each of the strategies as follow:

The NBC has acted on the First Broadcasting Master Plan (2012-2016) in the issuance of permits for spectrum usage and for conducting the broadcasting and television operations as follow:

1. Releasing NBTC Notification in connection with spectrum utilization and broadcasting and television operations

1.1 Set the characteristics and types of the broadcasting and television operations to set the groundwork to support the business development and to promote free and fair competition

In 2013, the work got underway on the draft second NBTC Notification to identify the characteristics and types of broadcasting and television operations dated ..., with the aim to amend and expound the NBTC Notification on the setting of characteristics and types, the application to suit the actual conditions of the broadcasting and television services which will lead to the setting of a more precise scope of the broadcasting and television operations for more effective control and operation of the broadcasting and television services. The draft was in the process of being put through a public hearing.

1.2 Checking and certifying technical standards

1.2.1 The issuance of the NBTC Notification on the testing and certifying of the standard for telecommunication transceivers and equipment used in the broadcasting and television operations dated 2013 was aimed at requiring some types of radio transceivers and equipment used in the broadcasting and television operations to go through inspection and certification for which the procedure for inspection and certification has been set. The standard was also set for the control of the radio transceivers and broadcasting and television equipment following the inspection and certification.

1.2.2 The NBTC Office Notification on the procedure and steps for inspection and standard certification of radio transceivers and broadcasting and television equipment with the aim to proceed with the NBTC Notification on the inspection and standard certification of radio transceivers and broadcasting and television equipment 2013 Nos. 7, 8, 10, 11, 12 and 22 which





mandated NBTC to set criteria, procedures and conditions for the inspection and standard certification of radio transceivers and broadcasting and television equipment, and self-certifying by the operators as well as the issuance of the mark signifying the approval and certification of the radio transceivers and the equipment.

2. The issuance of licenses as per NBTC Notification

2.1 The issuance of broadcasting and television operation licenses.

In the past, the NBC has issued the licenses as per NBTC Notification on the criteria and steps for granting permission for the operation of radio and television services of 2012, and the NBTC announcement on the criteria and the method to grant permission for the broadcasting and television facilities of 2012. As of December 31, 2013, a total of 1,075 licenses have been granted, as shown in Table 15.

Table 15: Licenses Granted for Broadcasting Television Operations

Type	No. of licenses
Broadcast service or television (channels)	804
Network services	266
• National	27
• Regional	50
• Local	189
Facility service	5
Total	1,075



Figure 22: Issuing Licenses for Broadcasting and Television Operations on January 30, 2013, at The Conference Center, Chulabhorn Research Institute, Bangkok





2.2 The issuance of licenses for broadcasting (trial)

The issuance of licenses for broadcasting (trial) as per the NBTC Notification on the criteria for the granting of broadcasting (trial) of 2012 – the first license awarding ceremony was held on January 9, 2013 at the Centra Government Complex Hotel & Convention Center. And as of December 31, 2013, a total of 3,402 licenses have been issued, as shown in Table 16.

Table 16: Licenses Granted for Broadcasting (Trial)

Type	No. of licenses
<ul style="list-style-type: none">• Commercial operation	2,326
<ul style="list-style-type: none">• Public service operation	629
<ul style="list-style-type: none">• Community service operation	447
Total	3,402



Figure 23: Licenses for Broadcasting (Trial)



2.3 The issuance of permits for the import, sale or ownership for sale or installation of transceivers or equipment

In 2013, permits for the import, sale or ownership for sale or installation of transceivers or equipment have been issued as per NBTC Notification on the criteria and method of the issuance of permits for the import, sale or ownership for sale or installation of transceivers or equipment that can receive or synthesize frequencies for radio broadcasting or television operation with membership of 2012. A total of 386 permits were granted as shown in Table 17.

Table 17: License to Produce, Import, Sale or For Sale, or an Installation of Transceiver or Equipment

Type of Permit	No. of Permits
<ul style="list-style-type: none"> • Manufacture • Import • Sale • Ownership for sale • Ownership for installation 	80 159 64 52 31
Total	386

Source: Group of Radio Broadcasting Business Licensing 1

2.4 The issuance of license for the manufacture, import, export and operation of radio transceivers and the installation of telecommunications stations as per Radiocommunications Act of 1955

In 2013, a total of 1,093 permits for the manufacture, import, export and operation of radio transceivers and the installation of telecommunications stations as per Radiocommunications Act of 1955 have been issued, as shown in Table 18.

Table 18: Licensing for a Production, Import, Export and Operation of Radio Transceivers and the Installation of Telecommunications Stations as per Radiocommunications Act of 1955

Type of Permit	No. of Permits
<ul style="list-style-type: none"> • Manufacture • Import • Export • Operate • Station installation 	223 450 279 89 52
Total	1,093

Source: Group of Radio Broadcasting Business Licensing 1



3. Action on spectrum and the necessity for use by government sector, state enterprises, other state agencies or those authorized to be allocated radio spectrum

3.1 There was the compilation of useful database on the spectrum and the necessity for use by government sector, state enterprises, other state agencies or those authorized to be allocated radio spectrum so that the operators can make use of the database as shown in Photo 24.



Figure 24: Database System for the Use of Spectrum and the Needs to use Spectrum by Government Sector, State Enterprises, other Government Units or Other Entities

3.2 To allow for the consideration of timeline for the precise concession term for the spectrum, the NBTC regulation on the criteria to consider the needs for spectrum used and the timeline for the return of spectrum used in the broadcasting and television operation of 2013 in which the government sector, state enterprises, other state agencies and authorized persons to be allocated spectrum for use and hold for a period of three years. The consideration process, needs and spectrum ownership was being carried out and must be considered by a relevant sub-committee to be further proposed to NBC and NBTC, respectively. Such a process in regards to the needs and the timeframe for the spectrum refarming was going through the NBC and NBTC consideration as shown in Table 19.



Table 19: The Consideration of the Needs for Spectrum Used and the Timeline for the Spectrum Refarming

Process	Work unit	NBTC decision
NBC decision 23/2013 (June 17, 2013) NBTC decision 7/2013 (July 17, 2013)	1. Thai Public Broadcasting Service (TPBS)	Spectrum refarming according to Article 83, Paragraph 3 of The Act on Organization to Assign Radio Frequency and to Resulate the Broadcasting and Telecommunication Services B.E. 2553 (2010) within the permissible timeframe and use of remaining frequency
	2. Royal Thai Army (RTA Radio & Television Station Channel 5)	Spectrum refarming according to Article 83, Paragraph 3 of The Act on Organization to Assign Radio Frequency and to Resulate the Broadcasting and Telecommunication Services B.E. 2553 (2010), within five years after the NBTC reaches a decision on timeframe to spectrum refarming under the stated conditions
	3. MOCT Plc (Modern Nine Television)	
	4. Government Public Relations Department (National Broadcasting Services of Thailand – NBT)	
NBTC decision 10/2013 (October 16, 2013)	5. Bangkok Broadcasting & Television Co., Ltd. (RTA Television Channel 7)	Spectrum refarming according to Article 83, Paragraph 3 of the Agency for The Act on Organization to Assign Radio Frequency and to Resulate the Broadcasting and Telecommunication Services B.E. 2553 (2010), when the operation contract with RTA Television Channel 7 ends or at such time when the Royal Thai Army indicates the intention to end the concession

Source: Group of Radio Broadcasting Business Licensing 1

4. Action on fees and rate of service fees

In 2013, the action on fees and the rate of service fees for broadcasting and television operations has proceeded with the following:

4.1 The reduction or waiver of fees on license for broadcasting and television operations was stipulated in the NBTC regulation on the reduction or waiver of fees on licensing for broadcasting and television operations of 2013, with the aim for those granted the license to operate radio or television broadcasting in accordance with the types of licensing to seek a fee reduction or waiver on an annual basis under the stated rate, condition and method to conform with the broadcasting and television operation act of 1998 and the NBTC Notification on fees on





broadcasting and television operations of 2012, Section 7, which empowers NBTC to reduce or waive fees on broadcasting and television operations for those seeking license or have been granted permits, in cases that the operators could clearly demonstrated to the NBTC that their broadcasting and television operations contain information or materials deemed beneficial to the public at a higher ratio than contents deemed not necessarily beneficial to the public.

4.2 The development of the management of the setting of fees and service fees

For the convenience of those who were issued license who have the duty to pay annual fees to be able to expedite the payments correctly and speedily, including the expedition of the administration of the annual fee collection system of the NBTC to be more effective, the NBTC Office has developed the fee administration system that were linked to the broadcasting and television permit database to increase the effectiveness in the calculation of all fees and to prepare reports according to the specified forms and timeline. In addition, the said system could also be used to analyze the fee rates that can be processed the along the otherwise complicated financial model so as to arrive at the correct and precise calculation that is reliable and trusted by the operators. Furthermore, the system is linked to the web-based database of the broadcasting and television license accessible to the operators who could then produce the reports in the correct form and within the timeframe.

4.3 The guideline on analyzing the revenue from the operations that could be used to calculate the annual fees on license

As the NBTC Notification on the fees on broadcasting or television operation license of 2012, Section 6.5, has assigned the NBTC Office to review the revenue derived from the operations of the permit holders to be used as the basis to calculate the annual fees and to complete the review within 90 days after the NBTC Office received the budget. Therefore, to abide by the criteria and the guideline in considering the revenue from the businesses to be used as the basis to calculate the annual fees, the NBTC Office has issued the guideline to consider the revenue from the businesses to be used as the basis to calculate the annual fees when the NBC meeting 34/2013 on September 16, 2013 approved the way to consider the revenue to be used to calculate the annual fees for the permits as proposed by the NBTC and amended by the NBC meeting while assigning the NBTC Office to prepare the guidelines for this purpose. Going forward, the NBTC Office will disseminate this guideline to be used as the basis in calculating the annual fees for the permits to those who have been awarded the permits as well as relevant NBTC officials and staff both at the Bangkok headquarters and regional offices.





4.4 The dissemination of information

The NBTC Office has launched a project to disseminate the information on the annual fees for permits, the accounting process and the classification of investment and revenue in the broadcasting and television businesses so that those awarded the permits would get the accurate information especially in regards to the intent and purpose of the collection of the fees for the permits, the accounting process, document preparation and the steps to submit the forms in order to make the payment for the fees on broadcasting or television operation permits, as well as the classification of investment, to be used as the information on the management of service fees for broadcasting and television services through trainings for those who have been issued the license and NBTC employees both from the headquarters and regional offices, so that the form-filling process and steps for payment will be understood by all concerned.

Table 20: The Information of the Annual License Fee, Accounting, and Classification of Cost and Revenue in Radio and Television Broadcasting

Agenda	Date	Location	Target group
1. Training on knowledge on annual fees for permits, accounting, classification of investment and revenue of broadcasting and television businesses	Nov. 25-27, 2013	Conference Hall, Floors 1-2, NBTC Office	NBTC employees from head office and provincial offices
2. Training on knowledge on annual fees for permits, accounting, classification of investment and revenue of broadcasting and television businesses	Nov. 29, 2013	Conference Hall, Floors 1-2, NBTC Office	Permit holders in Bangkok and surrounding provinces
3. Training on the classification of revenue derived from the business and the fee payment through the Internet	Dec. 19, 2013	Charoen Thani Hotel, Khon Kaen Province	Permit holders in provincial areas (Northeast)

Source: Group of Broadcasting Tariffs





5. The project to develop the system on the testing and monitoring of broadcasting equipments and devices

5.1 Prototype of the interference protection device for radio station project

The aim of the trial broadcasting was to build a prototype low pass filter to maintain the frequency range of the radio station broadcasting within the required limit and the build the band pass filter for use in the broadcasting operation that has acquired the test broadcasting permit.

5.2 Project to set up a laboratory to test the telecommunication equipment and devise as stated in the Radiocommunications Act B.E. 2498 (1955)

The aim of the project was to procure the testing equipment to check the features of the radio transceivers, equipment and devices as well as to certify the process to issue permits for the manufacture, import, sales or for use and installation of the radio transceivers and equipment use in the broadcast operation as has been sought for testing purposes.

5.3 Project to procure a mobile laboratory

To test the frequencies or to certify the broadcasting equipments and devices as stated in the Radiocommunications Act B.E. 2498 (1955) and the broadcasting equipments used for broadcasting (trial). The aim was to procure a vehicle fully equipped with testing devices and supporting equipment for the tasks of checking and testing of community radio stations' equipment to conform to the NBTC regulations and to have a mobile laboratory to check the field strength of community radio stations to conform to the NBTC regulations.

5.4 Prototype project for the 500-watt broadcasting equipments

The aim was to a prototype radio transmitter and radio station with 500 watts power as a choice for radio operators who have received the permits for broadcasting (trial).

6. To educate those involved in the broadcasting and television operations on the matters concerning permits and commercial operations as well as the technical standards

6.1 To hold meetings to disseminate the knowledge and understanding on the permits and commercial operations on the IPTV system to those in the electric and electronic sectors and members of other relevant industries.

6.2 To hold two meetings at the TOT Institute on technical standard testing of radio transmitters for the test-run of the operations – to disseminate the knowledge and understanding on the technical standard testing of transmitters for the test-run of the operations to technical staff.





Strategy 2: Strategy on the Management of the Broadcasting and Television Operation

On the part of the management of the broadcasting and television operations for the benefit of the economy, society and security and the proper use spectrum without interference, including the free competition under transparent and fair rules and regulations, in 2013 five dimensions have been instituted, namely, 1) the management of the television programs, 2) the management of competition, 3) the self-regulation, 4) technical management, and, 5) others.

1. The management of TV programs, contents, and the criteria of suitability for the programs.

1.1 The management of TV programs and the criteria of suitability for the programs.

1.1.1 An NBTC announcement on the criteria for the programming for radio or television broadcasting of 2013, to allow those who would like to enter the business to know in advance the types of programs, the proportion of different programs and the consideration process of the programs, as well as the necessary documents or information required for the consideration of the programming and the time needed for consideration. Those requesting license must produce the programs to suit the purpose of each criteria as stipulated in the permit in accordance with the NBTC Notification on the criteria and method of approval for the broadcasting and television, which must comply with the following criteria.

1) Public service business: Must contain news or documentaries that are beneficial to the general public at no less 70 percent

2) Community service business: Must contain news or documentaries that are beneficial to the community and the locality it was serving and must contain programs produced by members of the community or locality and no less than 50 percent of the total air time.

3) Business service: Must contain news or documentaries that are beneficial to the general public at no less than 25 percent, and the services in the regional and local levels must contain at least 50 percent of regionally or locally produced programs. In 2013, the draft second NBTC Notification was being prepared on “The criteria of programming for broadcasting and television dated,” to support the services of the licensee holders for operators who do not make sure of spectrum and who solicit subscribers.





1.1.2 To reach an understanding of the NBTC Notification on The criteria for the programming for radio or television broadcasting of 2013, The NBTC Office organized a meeting to expound on the notification on August 13, 2013 at the Grand Ballroom, Century Park Hotel, Bangkok, attended by 299 operators of free TV, radio stations as well as cable and satellite televisions.



**Figure 25: The Understanding on the NBTC Notification on the Criteria
for the Programming for Radio and Television Broadcasting of 2013**

1.2 Setting of the rating of suitability on NBTC Notification on The criteria for the programming for radio or television broadcasting of 2013.

The NBTC Notification on the criteria of the programming for radio or television broadcasting of 2013 stipulated that the licensee for radio and television broadcasting must plan the programs to suit the criteria of each type of program according to Addendum Gor and set the program time to suit the type of the program as well. Therefore, to set the rating of the suitability of the television program for all licensee to be in the same direction, the NBTC Office has set the criteria for the rating by brainstorming the ideas from all stakeholders such as the operators, academicians and professional associations. As such, the NBTC Notification on the criteria for the programming for radio or television broadcasting of 2013 was published in the Royal Gazette on October 29, 2013.

1.3 The regulation of time-sharing for other program producers.

There was an issuance of the NBTC Notification on the criteria to share air time with other program producers of 2013 to promote and support the more efficient and beneficial operation of the radio and television broadcasting, by considering the promotion of freedom in communication and the people's access to varied and high quality information equally and knowingly, and the control of the broadcasting and television operations to allow for free and fair





competition, with varied quality contents suitable for all target groups along with the consumers' rights to quality service. As such, the licensee must directly provide the services while allowing other producers to produce at least 10 percent of their total allowable contents but not over 40 percent. The time for such programs must be proportionate and thoughts given to the variety of the all programs of each of the stations without any characteristics of being a monopoly, reduction or limiting to competition among broadcasting and television service providers. Furthermore, the producers given the share of the air times are not allowed to sub lease these air times or to revert the contracts to the licensee who own the air time. As such, the licensee must provide the information to the NBC in regards to the time-sharing arrangements as well as the stations' programming.

1.4 The regulating of the program contents of the broadcasting and television operations.

1.4.1 In 2013, there was a draft NBTC Notification on "The criteria to regulate the program contents of the broadcasting and television operations of ...", to be a tool to regulate the program contents of the broadcasting and television operations by referring to the Broadcasting and Television Operations Act of 1998, Article 37, which prohibits four types of program:

- 1) Which would result in the overthrow of the Constitutional Monarchy form of Government
- 2) Which would impact national security
- 3) Which would impact the peace and the good moral of the people
- 4) Which constitutes lewd or pornographic contents that would strongly undermine the good moral and mental well-being of the people

The draft NBTC Notification on "The criteria to regulate the program contents of the broadcasting and television operations of ..." has already passed the public hearing. However, as there have been comments and suggestions in regards to this draft, the NBC meeting thus required the NBTC Office to forward the draft to the Council of State to consider whether the power to issue such as notification as well as its contents would contravene the 2007 Constitution as well as The Act on Organization to Assign Radio Frequency and to Resulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), or not.





Figure 26: NBTC Public Hearing on the Notification on the Criteria to regulate the Program Contents of Radio and Television Broadcasting (draft)

1.4.2 Process on the project on the study, research and analysis to support the regulation of the contents so as to increase the effectiveness with the cooperation of national and international institutions, namely:

- The project to research and present the criteria on the regulation of community radio that will lead to a democratic society with information pluralism.
- The project to compare the broadcasting and content regulations within Southeast Asian countries.
- The project to survey the attitude of those involved in broadcasting and television operations towards the regulations on program contents.
- The project to assess the quality of the program contents in the broadcasting and television businesses.
- The project to research for the purpose of setting the policy on program contents for the three southernmost provinces.





2. The Regulation to Promote Competition.

In 2013, the criteria of competition resultations on broadcasting and television operations has been promulgated as follow:

2.1 The issuance of the NBTC Notification on the criteria for broadcasting of important sports programs of 2013 to promote the people's rights of access important programs that are of interest among the majority of the population without limitation, was in effect the prohibition of the operators from acting to monopolize or to discriminate against other operators in the radio and television broadcasting of important sports event and stipulate that for an operator to broadcast such an important event must first offer other operators to join the negotiation in order to bring such as program to as wide an audience as possible.

2.2 The drafting of an NBTC Notification on "The criteria to identifying the operators who have the disproportionately high bargaining power over the broadcasting and television markets and the special measures to protect against monopolistic or unfair competition acts of ...", in order to protect against the monopolistic or unfair practice acts in the broadcasting and television businesses by defining the market and the scope of the peripheral markets concerned with the broadcasting and television services. This draft notification will be used to evaluate the competitiveness and set the standard especially for the market which have been deemed to be ineffective competition, as well as to set out the standard to regulate in advance to prevent operators from having monopolistic powers which implies the acts of limiting or preventing competition in the broadcasting and television services. As such, the market and the scope of the market have been set, as well as the consideration of the ability to compete in the market. The consideration of the monopolistic powers with certain implications, which at the end of 2013, the draft notification was being forwarded to the NBC.

2.3 The drafting of an NBTC Notification on "The criteria to consider and set special measures to mitigate the effect of monopolistic practices or unfair competition in the broadcasting and television businesses of ...", in order to protect against the attempt to monopolize and create unfair competition in the broadcasting and television services. Therefore, the identification of characteristics of the actions deemed to be monopolistic and leaning towards unfair competition in the broadcasting and television services and the measures to prevent and mitigate such actions has been made. The main points, in addition to the law on commercial competition, and the prohibition of the permit holders from carrying out actions that are deemed to be monopolistic, reducing or limiting the competition in the broadcasting and television service according to this draft notification which has set the criteria to categorize the actions that are deemed to be monopolistic, reducing or limiting the competition in the broadcasting and television service. Also included is the requirement for licensee to notify or report the situation in which grief harm is done, or acted against, which has led to being dominated or the domination of the business which would then be investigated and consider on a case-by-case basis. This notification was being drafted as at the end of 2013.





3. Self-Regulation.

3.1 Grouping into organizations in various forms

3.1.1 In regards to the process of grouping together into organizations in various forms with the aim to foster self-regulation according to the ethical standard of the profession, the work was in progress to draft an NBTC Notification on “The measures to promote the grouping of the permit holders for the production of programs and the journalistic professionals involved in the radio and television operations of ...” The draft notification was meant to promote the grouping into organizations in various forms of the permit holders for the production of programs and the journalistic professionals involved in the radio and television operations to draw up the ethical standards regarding the business or profession, and the self-regulation of the business or profession under the ethical standard which is divided into two groups with different characteristics, namely:

Type 1: The specific grouping which consists only of members who are licensee for the production of programs, or only of journalistic professionals involved in the radio and television operation

Type 2: The mixed grouping which consists of members who are licensee for the production of programs and journalistic professionals involved in the radio and television operations

3.1.2 The holding of a seminar to promote the grouping and self-regulation according to the ethical standard of the profession. The seminar, which was attended by academicians and professionals from ASEAN, was on the promotion of the grouping and self-regulation according to the ethical standard of the profession in ASEAN and took place on October 14, 2013, at the Centara Grand Hotel at Central World with the aim to provide a forum to exchange knowledge and the compilation of experience in the promotion of the grouping and setting the ethical standard of the professionals in ASEAN countries and useful in promoting the knowledge in Thailand.

3.2 Creating the guideline and the mechanism to support the self-regulation of the media - the creation of the guideline and the mechanism to support the self-regulation of the media through various activities, namely:

3.2.1 The collaborative between the NBTC Office and the Rajabhat Uttaradit University on “the promotion of the professional organization in creating an ethical standard for the mass media professionals”, with the aim to create a mechanism to promote the professional organizations of broadcasting and television operations to become aware of the ethical standard or the ethic framework of the profession, which would lead to the enforcement of the means for effective self-regulation that is most beneficial to the guideline on the regulation. Therefore, an agreement was reached on the cooperation to proceed with the creation of a network and the knowledge on self-regulation for the professional groupings, the operators and the mass media professionals, the process of which is shown in Table 21.





Table 21: The Collaboration between the NBTC Office and the Rajabhat Uttaradit University

Agenda	Date	Place
Seminar on Ethics from the perspective of the media and international regulatory bodies	April 22-23, 2013	Pullman King Power Hotel, Bangkok
Working group on the tri-partite approach of the self-regulation of the broadcasting and television services (Central region)	May 22-23, 2013	Rose Garden Riverside Hotel, Samphran, Nakhon Pathom Province
Working group to discuss and exchange of ideas on the approach of the self-regulation of the broadcasting and television services (Northeastern region)	June 22, 2013	Ubon International Hotel, Muang, Ubon Ratchathani Province
Working group to discuss and exchange of ideas on the approach of self-regulation (Northern region)	July 28, 2013	Friday Hotel, Muang, Uttaradit Province
Working group to discuss and exchange of ideas on the approach of self-regulation (Southern region)	August 23, 2013	The Twin Lotus Hotel, Muang, Nakhon Sri Thammarat Province

Source: Group of Broadcasting Competition Promotion and Self-Regulation





**Figure 27: Seminar on Ethics from the Perspective of Media
and International Regulatory Bodies**



**Figure 28: Working Group on the Tri-Partite Approach to Self-Regulation of Radio
and Television Broadcasting Business (Central Region)**



**Figure 29: Working Group to Discuss and Exchange the Ideas on the Approach to Self-
Regulation of Radio and Television Broadcasting Business (Northeastern Region)**





Figure 30: Working Group to Discuss and Exchange the Ideas on the Approach of Self-Regulation (Northern Region)



Figure 31: Working Group to Discuss and Exchange the Ideas on the Approach of Self-Regulation (Southern Region)





3.2.2 The meeting on the presentation on the ethics in (free) television business on May 9, 2013, at The Sukosol Hotel, Bangkok, with the aim to promote the understanding on the ethics and self-regulation in media



Figure 32: The Presentation on the Ethics in (Free) Television Business

3.2.3 The forum on the ethics in the television business and the exchange of ideas on self-censorship/self-regulation, on May 9, 2013, at The Sukosol Hotel, Bangkok, with the aim to promote the understanding on the media's self-regulation.



**Figure 33: Forum on the Ethics in Television Business
and the Exchange of the Ideas on Self-censorship/Self-Regulation**



4. Technical Regulation.

Released in 2013 were the measures to regulate the technical side of prevention and problem-solving, consisting of the following:

4.1 The technical standard testing of radio transmitters used for broadcasting (Trial)

In the technical standard testing of radio transmitters used for broadcasting (trial), a project was initiated to support the laboratory to be used to test the technical standard of the radio transmitters used for test broadcast through the signing of the memorandum of understanding (MoU) on the cooperation on the technical standard testing of radio transmitters among 30 agencies that have passed the consideration process on Monday, August 19, 2013. A training was also held to laboratory personnel to provide them with the knowledge and understanding on the technical standard testing of radio transmitters. A total of 81 persons attended.

4.2 Solving the problems of spectrum interference on radio and television broadcasting and telecommunication.

4.2.1 The regulation enforcement of radio broadcasting stations that have been granted permission to broadcast (trial) for 19 stations were given written orders to either stop, correct or adjust the interference problems.

4.2.2 A working group meeting was held to coordinate in solving problems of interference with aeronautical radio – in order to closely and continuously coordinate with all concerned agencies to solve the problems of radio broadcasting interfering with aeronautical radio effectively and urgently, as well as to report any technical problems arising from this operation to the sub-committee on the solving of the problem of community radio interfering with aeronautical radio. In 2013, there have been altogether 12 meetings of the working group on the coordination to solve the problems of interference with aeronautical radio.



Figure 34: Working Group Meeting on the Problem of Aeronautical Radio in Thailand





Figure 34: Working Group Meeting on the Problem of Aeronautical Radio in Thailand

4.2.3 The spectrum coordination to prevent and solve problems of spectrum interference along the joint borders with Malaysia and the People's Democratic Republic of Laos – to discuss and consider the spectrum coordination to solve the problem of interference of radio frequencies used in the broadcast, television and other communication equipment along the joint border of Thailand with Malaysia and Laos for the sake of normalcy, without undue interference as well as spectrum planning to achieve the most benefit from spectrum usage along the borders. Three meetings were held as shown in Table 22.

**Table 22: The Coordination to Prevent and Solve Problems
of Spectrum Interference along the Joint Borders**

Number	Date	Location	Country
1	June 24-28, 2013	Malaga	Malaysia
2	September 24-26, 2013	Pakse	Laos
3	December 10-12, 2013	Surat Thani	Thailand

Source: Group of Broadcasting Enforcement

4.2.4 The project to study the reverse intermodulation behavior of stations locating close to each other and the ways to lessen the interference among radio stations. As for the broadcasting (trial) with the aim to study and analyze the reverse intermodulation behavior of stations locating close to each other and to find ways to lessen the interference among radio stations for the test broadcast and for use as information in the management of the radio stations as well as for information to support the technical training for personnel involved.





5. Other regulatory measures.

Aside from the regulations in regards to the four major dimensions as expanded previously, in 2013, the NBTC has also formulated other regulations involving radio and television broadcasting businesses as follow:

5.1 The regulation on broadcasting (Trial)

An NBTC Notification on the criteria to regulate the broadcasting (trial) of 2013 with an aim to regulate and put orderliness in broadcasting business.

5.2 The search and arrest, and the prosecution of broadcasting stations.

5.2.1 There have been complaints lodged with the Royal Thai Police (RTP) to prosecute a total of 161 broadcast stations that were seen to have contravene the Radiocommunication Act of 1955, and the Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2551 (2008). In addition, the NBTC Office has coordinate with the RTP to search and arrest 27 broadcast stations suspected.

5.2.2 Cooperation with the Food and Drugs Administration (FDA) to search and arrest three broadcast stations that might have contravened the Radiocommunications Act of 1955 and the Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2551 (2008) that might have aired food and drug advertisements wrongfully.



Figure 35: NBTC in Coordination with Food and Drug Administration in the Arresting the Interference Radio Broadcasting Channel





Figure 35: NBTC in Coordination with Food and Drug Administration in the Arresting the Interference Radio Broadcasting Channel

5.3 The regulation on broadcasting services in the South

5.3.1 Arranging the meeting of the sub-committee on the consideration of the problems of the three southern provinces, in order to consider the notification, criteria, measures or conditions on the broadcasting services, and to analyze the problems regarding the broadcasting services, follow up, check and present ways or policies on the regulation of the broadcasting services especially in the three southern provinces. The meeting called for documents, evidence and witnesses to build up the database used to consider, assess and analyze the root problems of the broadcasting services and create the knowledge base on broadcasting services to address the conflict problems endemic to the southern provinces continuously. In 2013, a total of 12 meetings of the sub-committee on the consideration of the problems of the three southern provinces were held.



Figure 36: Sub-Committee Meeting on the Consideration of Problems of the Three Southern Provinces





**Figure 36: Sub-Committee Meeting on the Consideration of Problems
on Three Southern Provinces**

5.3.2 The preparation of the project to study the impact of broadcasting services on three southern provinces, with the aim to assess whether the community radio stations in southern Thailand were a source of free and reliable information that would foster the good relations between Buddhist Thai and Muslim Malays communities. Furthermore, the study would also cover whether the community radios played any role to create negative attitude (intentionally or unintentionally) towards the difference in regards to race and religion, including members of ethnic groups (Buddhist Thais and Muslim Malays), and in gaining knowledge on cultural and religious diversity from the community radio.

5.3.3 The preparation of the project to hire a consultant to analyze the media and ways to create peace: The lesson for policy on southern Thailand, with the aim to create the understanding of rules and regulations in regards to the government media and the measure to create peace in society following the cessation of hostility, and to present suggestion and policy that could be adapted for use with the media in southern Thailand.

5.3.4 The preparation of the research project to create the style of radio broadcasting in the three southern provinces, with the aim the study and compare the problems of violence in the form of societal conflict in the three southern provinces as compared to the situation in countries like the Republic of Rwanda, and the Aceh Province on the Indonesian island of Sumatra, and use the collected information to set the policy or suggestive policy for Thailand to prepare the kind of broadcasting services especially on the community radio, to solve the problems in the southern provinces.

5.4 The process on the regulatory roles of the officials, to ascertain that the officials charged with regulatory enforcement will be able to carry out their tasks in the proper steps and with effectiveness. Therefore, in 2013, the following have been carried out:





5.4.1 The preparation of the NBTC Notification on “The criteria and method of collecting information on the punishable crime in the broadcasting and television businesses of 2013” which was aimed to allow for the smooth, quick and effective process of prosecution within the proper framework.

5.4.2 The issuance of the NBTC Notification on “The criteria of the conduct and duty of the officers according to Article 53 of the Operation of the Sound Broadcasting Service and Television Broadcasting Service Act B.E. 2551 (2008) an aim to allow the relevant officials to regulate and enforce the broadcasting and television businesses smoothly, quickly and effectively within the proper framework that is transparent.

5.4.3 The issuance of the NBTC Notification (additional) on “The appointment of the official and the assignment of duties to act on behalf of the national committees on radio and television broadcasting and telecommunications, in the regulation and enforcement of the broadcasting and television businesses on July 15, 2013.”

5.5 The public sector (listeners and viewers) meetings on the broadcasting and television businesses.

The process to create the public sector network (of listeners and viewers) in connection to the broadcasting and television businesses went on continuously since 2012, in order to build a public network that would be acting deputies to the officials in the monitoring of radio and television broadcasting and report to the NBTC Office to take action on those not adhering to the laws, in a systematic, quick, effective and transparent manner, as well as to promote citizen networks to become allies in propelling the NBTC strategy which has set the criteria and regulations of the businesses to support with the mechanism, equipment and tools in monitoring the contents of the programs, including the complaint process. In 2013, the public sector network (listeners and viewers) in the broadcasting and television businesses have held meetings to create knowledge and understanding for participants in regards to the monitoring and complaint processes and providing information in other related areas to be used as the basis to analyze the contents of the radio and television programs. Altogether 19 meetings, with 1,300 participants, were held throughout the country.




Table 23: The Meetings (Public Sector) on Radio and Television Broadcasting

No.	Date	Target province
1.	February 21-22, 2013	Chonburi, Rayong, Trat, Srakaew, Prachin Buri, Chachoengsao
2.	March 7-8, 2013	Ayutthaya, Angthong, Lopburi, Singburi, Chainat, Saraburi, Uthai Thani
3.	March 21-22, 2013	Prachuab Khiri Khan, Phetchaburi, Ratchaburi, Kanchanaburi, Samut Sakhon, Samut Songkram, Suphanburi, Nakhon Pathom
4.	April 3-4, 2013	Pathum Thani, Nonthaburi, Samut Prakarn, Bangkok
5.	May 11-12, 2013	Chiang Mai, Maehongson, Lamphun, Lampang, Tak
6.	June 1-2, 2013	Nan, Phrae, Chiang Rai, Phayao
7.	June 22-23, 2013	Nakhonsawan, Phichit, Uttaradit, Sukhothai, Phitsanulok, Khamphaengphet
8.	July 16-17, 2013	Phangnga, Phuket, Krabi, Trang, Satun
9.	July 20-21, 2013	Surat Thani, Ranong, Chumphon
10.	August 3-4, 2013	Nakhon Sri Thammarat, Phatthalung, Songkhla
11.	September 7-8, 2013	Nongkhai, Udon Thani, Nongbualamphu, Khon Kaen, Kalasin, Maha Sarakham, Roi-et, Loei, Chaiyaphum
12.	October 5-6, 2013	Buengkan, Nakhon Phanom, Sakon Nakhon, Mukdahan, Amnartcharoen
13.	November 9-10, 2013	Nakhonsawan, Phichit, Uttaradit, Sukhothai, Phitsanulok, Khamphaengphet, Phetchabun
14.	November 16-17, 2013	Chonburi, Rayong, Trat, Srakaew, Prachin Buri, Chachoengsao
15.	November 23-24, 2013	Ayutthaya, Angthong, Lopburi, Singburi, Chainat, Saraburi, Uthai Thani
16.	November 26-27, 2013	Ubon Ratchathani, Yasothon, Sri Sa Ket, Surin, Buriram, Nakhon Ratchasima
17.	November 30- December 1, 2013	Pathum Thani, Nonthaburi, Samut Prakarn, Samut Songkram, Bangkok
18.	December 14-15, 2013	Chiang Mai, Maehongson, Lamphun, Lampang, Tak
19.	December 21-22, 2013	Nan, Phrae, Chiang Rai, Phayao

Source: Group of Broadcasting Competency Development





Figure 37: Public Sector (Listeners and Viewers) Meetings on Radio and Television Broadcasting Business in 2013

5.6 The strengthening of knowledge and the increase in capability of the operational personnel in the regulation of broadcasting and television businesses and the create understanding towards the permit holders of the broadcast and television businesses to promote the understanding of the laws in relations to the broadcast and television businesses, and the steps, and methods in the investigation, search and arrest of transmission stations suspected of committing wrongful acts.

5.6.1 The training on the project to create a network to enforce the laws in the broadcast and television businesses to NBTC Office personnel and related agencies to build a network in the government sector in the enforcement of the laws in relations to the broadcast and television businesses.



Figure 38: Training on Network Building on the Radio and Television Broadcasting Regulations





5.6.2 The seminar on “The Academic Concept on the Legal Suitability on the Control and Regulation of the Broadcasting and Television Businesses” was held on August 29, 2013, at Centara Grand Hotel at Central World, to discuss the academic concept with legal experts in connection to the legal suitability in regards to television broadcasting services.

5.6.3 The meeting to ensure the understanding among licensee for non-frequency business in television broadcasting service, so that they will be able to abide by the law and the relevant notification. This was held on September 4, 2013, at the Royal Thai Army Club, Bangkok.

5.6.4 NBTC Training Project on “The Understanding of Broadcasting and Television Services” for NBTC staff, licensee, stakeholders and related public.





Strategy 3: Strategy on Consumer Protection Relating to Broadcasting and Television Operation

This strategy is related to the effort on consumers' rights protection by considering the human rights principles – to prevent the consumers from being violated by operators of the broadcasting and television businesses under false pretenses, distortion, malice, unfair, or monopolizing to their own business advantage, as well as to promote the capability of the people to be more aware, stronger and know how to protect themselves, to access, understand and the effectively use the media for their own benefit. In 2013, the work of NBTC could be divided into two major dimensions:

- 1) The measure to strengthen consumers to be able to protect themselves in the long term, and
- 2) the measure to solve consumers' problems and complaints.

1. The measure to strengthen consumers to be able to protect themselves in the long term.

1.1 The building of the consumers' network in the broadcasting and television businesses

1.1.1 The preparation for the regional seminar for the radio television consumers, by organizing four regional seminars on the topic of "Action of the radio-television consumers network", with the aim to strengthen radio-television consumers to unite into strong networks which are alert, aware, vigilant and ready to submit complaints, suggestions and reflect on problems that are connected to the works of NBTC. For this, the target groups of participants in the seminars were from consumers networks that are varied in their issues and areas. The activities at the seminars have been well prepared and the compilation of the seminars' proceedings in regards to consumers protection and the exchange of ideas between the NBTC, the sub-committee on consumers protection in the broadcasting and television services, and the group brainstorming to prepare the participants to become part of the strong network and build a concrete process "activity, listen, see, think and see through the media's issues" in regards to the advertising of unlawful health merchandise and the tri-partite among the governing bodies, operators and consumers, as shown in Table 24.





Table 24: Regional Seminars for Consumers of Radio Television Broadcasting in 2013

No.	Date	Location
1	July 18-20, 2013	Diamond Paradise Hotel, Surat Thani
2	August 1-17, 2013	Pullman Hotel, Khon Kaen
3	September 20-23, 2013	Swissotel Le Concorde Hotel, Bangkok
4.	November 1-2, 2013	Lotus Pang Suankaew Hotel, Chiang Mai

Source: Group of Broadcasting Consumer Protection



Figure 39: Regional Seminars on Radio-Television Broadcasting in 2013





1.1.2 The creation of communication channels to link up with the networks of consumers of radio-television and to disseminate information to general public through four channels, namely:

1) Website <http://bcp.nbt.go.th> to work as a channel for inquiries and gathering of information related to the protection of consumers on radio-television and a link to the channel for complaints.



Figure 40: Radio and Television Broadcasting Consumers Protection Website (<http://bcp.nbt.go.th>)

2) Through social media for dissemination of information on rights and other matters related to the protection of consumers of radio-television.



Figure 41: Dissemination of Information on Consumer Rights and Related Issue through Social Media





3) The book “100 Things Radio-Television Consumers Should Know”, sequencing the issues related to broadcasting and television businesses, such as relevant laws, emerging technology, roles of NBTC and radio-television consumers to promote understanding among consumers.



Figure 42: The Book: “100 Things Radio-television Consumers Should Know”

4) The magazine “Roojak Sue, Roojak Sith (Know the Media, Know Your Rights)”, to disseminate news in regards to consumer protection and the rights to access radio-television.



Figure 43: “Roojak Sue, Roojak Sith (Know the Media, Know Your Rights)” Magazine





1.2 The promotion of knowledge on consumers' protection

1.2.1 The holding of the first workshop and focus groups for digital television's consumers on the topic of the preferred types of public and community television programs, with the aim to brainstorm ideas from consumers to use as information for the NBC to consider criteria to grant licenses for digital television operations for the type of public and community services, and to foster participation and create strength on the part of the consumers. The workshop was held on March 8, 2013, at the Century Park Hotel, Bangkok.

1.2.2 The holding of the workshop to gather ideas on the topic of the disabled and the denigration of the disabled in radio and television media, in which the first Broadcasting Master Plan (2012-2016) has mandated the protection of the consumers of broadcasting and television by considering human rights tenet to prevent the denigration and discrimination by broadcasting and television operators in the forms of falsehood, distortion, bias, monopoly or taking advantage for commercial benefits. The workshop was held on July 10, 2013, at the NBTC Office.

1.2.3 The workshop on excessive advertising over and above the time limit set in the law through the Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2551 (2008), Article 23, as well as the NBTC Notification on the exploitation of consumers in broadcasting and television business dated 2012, No. 5(8), which controls the programming allowing for a period of time for services and goods advertising to within the time and frequency permissible by law so as not to interrupt the consumers' viewing unnecessarily. This action is deemed to be exploiting the consumers' rights resulting in great annoyance, and presenting excessive advertising for commercial benefits. Also contravened is No. 8 of Notification stipulating that in the case that the committee agreed that the action of the operator is deemed to be the exploitation of consumers, the operator may be ordered to cease broadcast immediately. The workshop was held on October 9, 2013, at the Century Park Hotel, Bangkok.

2. The measure to solve the problems and complaints of the consumers.

2.1 The Notifications and guidelines for the protection of consumers of broadcasting and television businesses

2.1.1 The issuance of the NBTC Notification on "The standard of membership contract for broadcasting and television services of 2013", with an aim to ensure the quality and efficacy of the services, which are correct, fast and fair and to protect members of broadcasting and television services against exploitation by the operators.

2.1.2 The preparation of the guidelines on the receipt and consideration of complaints by the licensee of national digital television operations which calls for the setting of criteria and consideration of the complaints which are clear, convenient, quick, effective and fair, and must be resolved within 30 days after licensee have received the complaints, as well as notifying the complainants within seven days from the day the complaints have been resolves.





At the same time, the resolutions of the complaints will also have to be reported to the NBTC every six months. This notification has been made on October 15, 2013 along with the information on issuing license to use spectrum for national digital television services (following the sales of the auction documents).

2.2 The process in regards to complaints and suggestions on the broadcasting and television operations.

In 2013, there have been complaints and suggestions on the broadcasting and television operations in connection with the service, advertisements of food, medicine and health products as well as the programming as follow:

2.2.1 The consideration of the complaints and suggestions in connection with the service, advertisements of food, medicine and health products.

The consideration of the complaints in connection with the exploitation of the consumers, such as the changes in programming of subscription services without notifying the subscribers, the unfair contract and service, the delayed refund of deposits, etc., as well as the unlawful advertisements of food, medicine and health products, or what is deemed to be the exploitation of broadcasting and television consumers. The action was per the NBTC Notification on the setting of process and timeline to complete the consideration of suggestions or complaints on broadcasting and television and the NBTC Notification on the actions deemed to be the exploitation of broadcast and television business consumers of 2012. The table will show that the resolved complaints and suggestions totaled about 81.52 percent as shown in Table 25.

**Table 25: Statistics on the Consideration of Complaints and Suggestions
in Connection with the Advertisements on Food, Medicine and Health Products**

Types of service	Complaints	Suggestions	Cases/resolved		Cases in process	
			resolved	%	in process	%
Satellite TV	60	0	53	88.33	7	11.67
Cable TV	4	0	1	25.00	3	75.00
Free TV	1	1	1	50.00	1	50.00
Radio	16	9	19	76.00	6	24.00
Others	0	1	1	100.00	0	0
Total	81	11	75	81.52	17	18.48

Source: Group of Broadcasting Consumer Protection





2.2.2 The consideration of the complaints in connection with programming and contents of programs as the NBTC is empowered to consider to approve and control broadcasting and television services to allow the consumers to have access quality programs that are suitable to each social group, to protect the rights of the public and protect the society, especially children and youths that need extra protection because they are at an impressionable age, but lack the proper judgment in their consumption of the media, and might lead to imitation. Therefore, the consideration of the complaints in connection with the programming and contents are important and would follow the Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2551 (2008), Article 37. This was because the programs considered to be under Article 37 were deemed to be “forbidden” as they would have contents that intended to overthrow the country’s Constitutional Monarchy or ones that might affect the 3 national security, the peace and order and the people’s moral, or pornographic in nature, or would lead to the corruption of the mental state of the people.

The consideration would adhere to the NBTC Notification on the setting up of the process and the timeline to complete the consideration of the suggestions and complaints in connection to the broadcast and television services. The statistics showed that the complaints and suggestions that have been resolved complaints and suggestions totaled 82.95 percent.

**Table 26: Statistics on the Consideration of the Complaints and Suggestions
in Connection to the Program and Contents**

Types of service	Complaints	Suggestions	Cases resolved		Cases in process	
			resolved	%	in process	%
Free TV	25	25	42	84.00	8	16.00
Cable TV	2	1	2	66.67	1	33.33
Satellite TV	9	5	10	71.43	4	28.57
Radio	4	0	4	100.00	0	0
Community radio	15	0	14	93.33	1	6.67
Others	1	1	1	50.00	1	50.00
Total	56	32	73	82.95	15	17.05

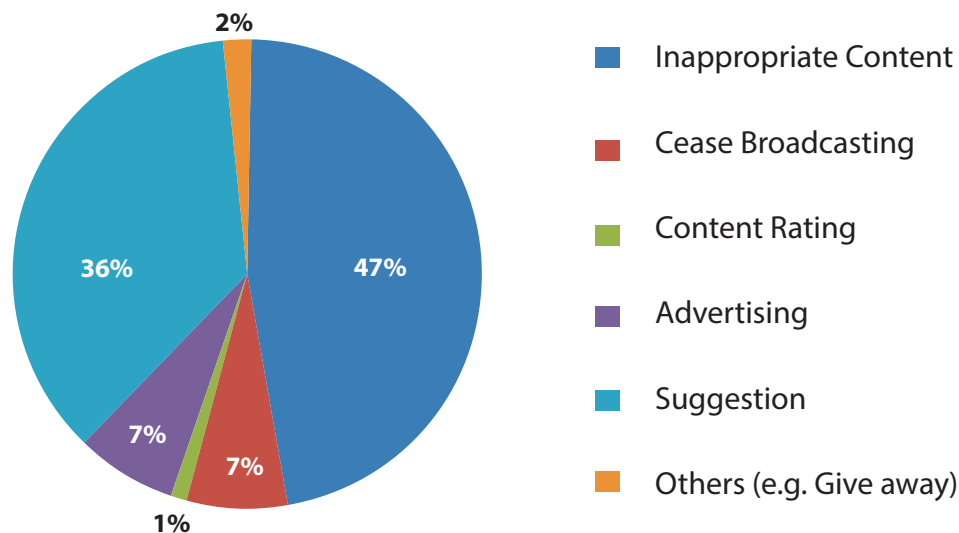
Source: Group of Broadcasting Consumer Protection





As such, the information shown in the table could be separated into complaint issues as in Graph 9.

Graph 9: The Issues of Complaints (on Programming and Contents)



Source: Group of Broadcasting Consumer Protection

As for the complaints on contents in 2013, in most cases, the NBC has decided to drop the cases after determining that the contents did not contravene Article 37 of the Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2551 (2008). In some cases, the contents were improper due to the use of profane language, in which case the operators would be asked to make adjustments to the contents. As for the complaints that have proven to be due to the operations without proper permits, the NBC has assigned the legal department to pursue the cases further. In 2013, there were two such illegal cases on which fines were imposed.

2.3 The protection of consumers in cases of illegal or over-claiming advertisements.

2.3.1 In 2013, the NBTC Office has proceeded against illegal and exaggerated advertisements especially of products that could be harmful to consumers. Arrests have been made at three radio stations that have aired advertisement of food and medicine that are deemed to be illegal or exaggerated. It was found that all three stations had not been issue a trial license in accordance to the NBTC Notification on the criteria on test radio broadcasts of 2012, and did not have the Food and Drugs Administration (FDA)'s permission to air the advertisements.





2.3.2 The NBTC Office in cooperation with the FDA organized a training for the operators on the compliance with the laws related to the advertisement of food and drug products, due to the importance in mitigating the problems in relations to the illegal advertisement of foods and drugs on radio and television, so that the operators can comply with the laws. The training took place on August 9, 2013, at the Ambassador Hotel, Bangkok.



**Figure 44: Training on the Compliance of the Regulation on Radio
and Advertisement of Food and Drug**





Strategy 4: Strategy on the Promotion in Freedom of Communication

In 2013, Actions have been taken to promote the freedom of communication, with the emphasis on the access or the recognition of information thoroughly and equally, to deter the radio and television operators from doing anything that is considered to be preventing or interfering in the presentation of news or opinion, or anything that may impede the rights and freedom to access information, or to block the people's access to a wide variety of information.

1. Guaranteeing that people will have equal and total access to radio and television and to create the measure to deter the operators from actions that may hinder and interfere with the people's access to information.

The NBTC Notification on the criteria for the important television programs that should be available on television for general viewing of 2012, with an aim to provide people with the access to quality television programs fairly, and for the benefit of promoting and safeguarding the rights of the under-privileged to have access or to learn and benefit from television programs equally with everyone else. The following live television programs are those that must be made available freely on television:

**Table 27: Television Programs that must be Available to People
under the Free-to-air Television Services Only**

No.	Television programs
1.	Southeast Asian Games (SEA Games)
2.	ASEAN Para Games
3.	Asian Games
4.	Asian Para Games
5.	Olympic Games
6.	Paralympic Games
7.	FIFA World Cup Final

Source: Group of Broadcasting Policy and Research





2. The issuance of the criteria to itemize and categorize the Non-Frequency Television Service.

In 2013, the NBTC has issued the criteria involving the itemizing and categorizing of non-frequency television service to ensure that the people will have access to programs with high quality, techniques and the variety of both media and technology. At the same time, there should be ease of access as well as promoting the wider coverage of the services which should be available to a wide audience.

2.1 The issuance of the NBTC Notification on “The criteria for the itemizing and categorizing of television services that do not make use of the spectrum of 2013”, with the aim to coincide with the NBTC Notification on The criteria and method of awarding permission for the services of the broadcasting and television networks on 2012 No. 12 (25) which set the conditions for the issuance of permits for which the permit grantees must itemize or categorize the broadcasting or television as required by the NBTC, and to improve the quality of service so that the people would have access to services with high quality contents, techniques and variety of media and technology, as well as to offer ease of access to those services. This is done by categorizing the television services that did not make use of the spectrum into six categories, namely:

- 1) General television service as specified in the NBTC Notification on “The criteria of general television services”
- 2) Television service of news and current event type, which presents news, events, facts or opinions that impact a wide audience
- 3) Television service for children, youth, family, the elderly, the disabled and the disenfranchised, which would involve the contents on knowledge, the behavioral development of children and youth, or the presentation of a variety of programs for family, the elderly, the disabled and the disenfranchised, as well as to create a good atmosphere within the family units
- 4) Television service for education, religion, culture, science, technology, environment or vocational training
- 5) Television service on sports, travel, or health promotion with the contents that promote the knowledge and understanding on sports, travel and health
- 6) Television service on a miscellany of entertainment and other, with contents that are varied with the emphasis on providing entertainment to the audience, such as movies, series, music, game shows or other entertainment programs, by setting the criteria for the itemization of television services that do not make use of the spectrum.

As has been issued ion the NBTC Notification on “The criteria for the itemizing and categorizing of television services that do not make use of the spectrum of 2013”, for the sake of clarity in the itemizing of television services, promote the equitable and widespread access to television service among the people, as well as providing convenience to the people to access television services. Therefore the NBTC has prepared the NBTC Notification on “The criteria to itemize the television services of 2013” with the summary being the dissemination and itemization of the television services for orderliness, to allow the people to access television services equitably and freely as well as to provide convenience to the people to access television services.





3. The setting of characteristics and measures to prevent actions that are deemed to be monopolistic through mergers, acquisitions and the domination of radio and television.

There was the preparation of the draft NBTC Notification on “The setting of characteristics and measures to prevent actions that are deemed to be monopolistic through mergers, acquisitions and the domination of radio and television dated ...”, to prevent actions that could be considered mergers, the domination of the same type of business, the cross-service acquisition and the domination of radio and television services. These actions were considered to be detrimental to the freedom of access to information, or to block the people’s access to varied information, or to create a monopoly, to reduce or limit the competition in the radio and television services, by issuing the following measures:

- The measure to control mergers and cross-shareholding
- The measure related to the domination of the same type of business and the cross-service acquisition
- The domination of business by persons with shared interest

Currently, the draft NBTC Notification on “The setting of characteristics and measures to prevent actions that are deemed to be monopolistic through mergers, acquisitions and the domination of radio and television ...”, was still in the process to being submitted to the NBC before submitting to the public hearing.

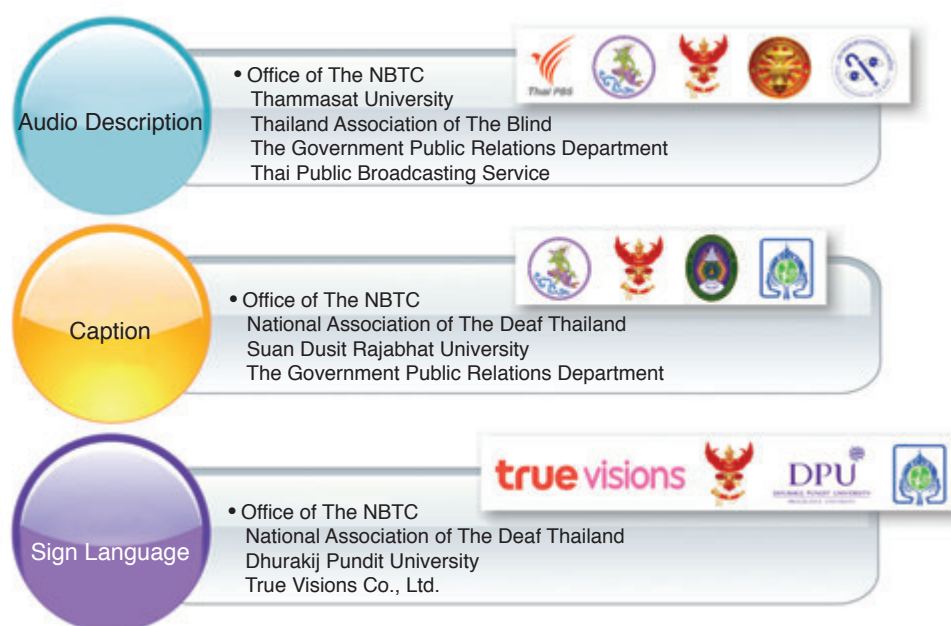
4. The promotion of access and reaping of the benefit from radio and television media by the disabled, the elderly and the disenfranchised.

In 2013, actions have been taken to promote the reach and the benefit derived from radio-television services for the disabled, the elderly or the disenfranchised, as follow:

4.1 The NBTC Office has signed a memorandum of understanding (MoU) with concerned agencies, namely, the Radio and Television Operators, Association of the Disabled, and academic institutions, in order to promote the opening of better access to the disabled by the operators of radio and television services, with the main aim to improve the service so as to become more beneficial to the disabled in regards to the access to news and information through radio and television, as well as to promote and protect the rights of the disabled and the disenfranchised for they would have equal rights to receive and make use of news and information to use in their daily life and to uplift the quality of information effectively and equitably. The services under the MoU are divided into three types, namely:

- 1) The audio description service among the NBTC Office and the Faculty of Journalism and Mass Communications, Thammasat University, the Association of the Blind of Thailand, the Public Relations Department (Radio Thailand and the National Broadcasting Services of Thailand) and the Thai Public Broadcasting Service.
- 2) The caption service among the NBTC Office and the National Association of the Deaf Thailand, Rajabhat Suan Dusit University, and the Public Relations Department (the Thai Public Broadcasting Service).
- 3) Sign Language Service among the NBTC Office and the National Association of the Deaf Thailand, Faculty of Communication Arts, Dhurakij Pundit University, and True Visions Public Company Limited.





**Chart 8: The Services under the MOU among the NBTC Office
and Concerned Institutions and Agencies**

4.2 The meeting to study the reach and the benefit derived from radio-television services for the disenfranchised and the disabled as they could then gain access, understand and use the media more effectively to their own benefit. To pass through the process to measure up to the media and to launch public campaigns, as well as to protect their own rights of access and benefit from the information which may be useful in their daily life and to uplift the standard of effective information access to the wider audience, on May 15, 2013, at the NBTC Office.

4.3 The workshop to brainstorm on the drawing up of the plan to promote and support the research and development of technology for the facilities for the disabled, the elderly and the disenfranchised.

In accessing the information to create the measures to promote and protect the rights of the disabled, the elderly and the disenfranchised so that they could access and make use of the radio and television programs equally with all people, and to promote the radio and television operators as well as the program and facility producers to provide services that are appropriate so as to protect the rights of the disabled, the elderly and the disenfranchised so that they would not be overlooked or violated. More importantly, to further develop the potentials of the disabled, the elderly and the disenfranchised so they could access and make use of the information as equitably as any person, and to increase the capability of research and development in the radio and television businesses as well as the ability to catch up with media technology that provide facilities for the disabled, the elderly and the disenfranchised to access the information from the radio and television in order to improve their quality of life. The workshop was held on February 21, 2013, at the NBTC Office.





4.4 The meeting to brainstorm on the ideas to develop the radio program prototype for the disabled, to support the access and to make use of the news, information which are useful in daily life, as well as to improve the quality of the news and information effectively and widely. The first session was held on June 28, 2013, and the second session on July 18, 2013, at the NBTC Office.

5. The promotion of the people's ability to become cognizant of the media.

5.1 The goal of promoting and supporting the people to increase the ability of people to become cognizant of the media by setting up the procedure to plan a project to develop and increase the ability of the people to become cognizant of the media according to the goal set by the Research and Development Fund for Radio, Television and Telecommunications. In the interest of the public, the ability to become cognizant of the media is an important tool to empower people to consume and make use of the media wisely. In order to become cognizant of the media, people and other target groups must develop their knowledge, understanding and skills in accessing and making use of the various media, to analyze and assess the media, in the form of policy, structure, system, contents and presentation, as well as the ability to present ideas, suggestions and demands in relations to the works of the media at all levels. On this topic, exhibitions have been held in many regions as follow:

Table 28: Exhibitions in the Different Regions on the Ability to Become Cognizant of the Radio-Television Media in Digital Age

No.	Dates	Location
1	July 18-20, 2013	Central Festival Surat Thani, Surat Thani Province
2	August 16-17, 2013	Central Plaza Khon Kaen, Khon Kaen Province
3	November 1-2, 2013	Central Airport Plaza, Chiang Mai Province

Source: Group of Broadcasting Consumer Protection





Figure 45: Exhibition on Media Literacy in Digital Age

5.2 The short movie contest on the theme of the ability to become cognizant of the radio-television media in the digital age – with the emphasis on “digital”.

As there would be the transition of the television broadcasting to the digital system, in order to promote the knowledge and understanding among people and to prepare the readiness of the public to become cognizant of the media so as not to be taken advantage of by the radio-television operators by allowing under-graduate students and general public to play a role in presenting their knowledge and the ability to convey this knowledge into a short movie under the theme “Becoming cognizant of the Radio-Television Media in the Digital Age”. The resultant works from this project would be shown through various channels and will start the exposure with learning institutions to create participation and promote the strength in children and youth, as well as among the people in their role as consumers of the media. The participating teams first had to attend a workshop on “knowing the media” in the short movie contest project on the theme of becoming cognizant of radio-television media in the digital age, on October 11-13, 2013, at the Buddy Oriental Riverside Hotel, Nonthaburi. The results of the contest were announced on December 13, 2013, as follow:





Table 29: The Result of Short Movies Contest on the Ability to Become Cognizant of the Radio-Television Media in Digital Age

Winners Under-graduate Category	First prize: Siam University (The Shepherd Boy)
	First runner-up: Rajabhat Thepsatri University (Not Knowing the Media)
	Consolation prizes (3): Rajabhat Kalasin University (Choices) Rajabhat Uttaradit University (Just Be Aware) Christian University (Ton And Diew)
Winners General Public Category	Runner-up Prizes (2): JNBP Team (Use Your Judgment in Viewing) Sweet Children Team (Hysteria)
	Consolation prizes (3): Pirab Sangsan Team (Lullaby) 2P1B Team (Lost of Concentration) Men Behind the Scene Team (Know the News)

Source: Group of Broadcasting Consumer Protection



Figure 46: Short Movie Contest on Media literacy in Digital Age





Strategy 5: Strategy on the Quality Development of the Business

This strategy was aimed to promote and develop the quality of radio and television businesses including the development of quality personnel, programs and operators, to respond to the intent of Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2551 (2008) and The Act on Organization to Assign Radio Frequency and to Resolute the Broadcasting and Telecommunication Services B.E. 2553 (2010). In 2013, the following have been carried out:

1. The promotion and support in the development of personnel in the radio and television businesses.

1.1 In order to promote and support the development of the personnel in the radio and television businesses, there was an issuance of the NBTC Notification on “The training and testing for the certificate for announcers in the radio and television businesses of 2013”, which was aimed at promoting and developing the ability of the personnel in the radio and television businesses to become persons with responsibility towards the society by becoming aware of interest of the public and promote and support the journalistic profession in many ways, including the promotion, support and monitoring of the development of quality standard in the operation of the radio and television personnel. The training department involved must have the credentials as specified in the said notification and must be ready to arrange the training programs as per the announcement. The training programs are divided into three levels, namely, beginner, immediate and advanced. At the same time, the participants in the training at all levels must also possess the qualifications as specified in the notification, which following the enforcement of the notification, training programs have been carried out as shown in Table 30.

Table 30: Number of Participants who Attended the Announcer Training Program in 2013

Level	Number of Participants
Beginner	2,348
Immediate	1,537
Advanced	620
Total	4,505

Furthermore, in 2013, announcer identification cards were issued to a total of 2,514 personnel in the radio and television businesses, who already possessed announcer identification cards issued by the Public Relations Department and the NBTC Office.





**Figure 47: Presenter Certification of Distribution in Radio and Television Business
(Referring to the Public Relations Department's Information)**

1.2 In 2013, the Broadcasting Executive Forum (BCF) was organized between May 15 to September 5, 2013, to provide better knowledge and understanding to executives in radio and television services to become more aware of the outcome of the radio and television businesses in the future, as well as to exchange the experience among executives and those involved, which would lead to the development of the knowledge base for the development of radio and television services and to expand the vision which is essential for the executives and others involved in the radio and television services.



Figure 48: Radio and Television Broadcasting Executive Forum





2. The dissemination of knowledge to those involved in the radio and television businesses in order to develop radio and television profession.

In 2013, there have been the dissemination of knowledge to those involved in the radio and television businesses through the training to develop radio and television profession, as follow:

2.1 The training on “The development of potentials in radio and television operators towards professionalism”, with the aim to promote the basic knowledge related to the correct practices in radio and television businesses, the development of quality programs and the promotion of potentials in the program production for radio operators to obtain the standard and professionalism, the promotion and support for grouping of the radio operators and for those in the profession to have a stage on which to exchange experience and knowledge among those belonging to the same profession and to bring the knowledge to apply in real practice. The trainings were held in several regions as shown in Table 31:

Table 31: Training on “The Development of Potentials of the Radio and Television Operators towards Professionalism”

Number	Dates	Locations
1	June 12-13, 2013	Holiday Hotel, Lopburi
2	June 27-28, 2013	Amarin Lagoon Hotel, Phitsanulok
3	July 11-12, 2013	Centara Chaeng Wattana, Bangkok
4	July 30-31, 2013	Amari Orchid, Chonburi
5	August 7-8, 2013	Roikoh Hotel, Surat Thani
6	September 5-6, 2013	Lee Garden Hotel, Songkhla
7	September 26-27, 2013	Pullman Hotel, Khon Kaen
8	October 3-4, 2013	Sunee Grand Hotel, Ubon Ratchathani
9	October 10-11, 2013	Centara Hotel, Udon Thani
10	October 31-November 1, 2013	Dusit Princess Hotel, Nakhon Ratchasima
11	November 14-15, 2013	Amora Hotel, Chiang Mai
12	November 27-28, 2013	Devaraj Hotel, Nan

Source: Group of Professional Broadcasting Institution Development and Universal Service





**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Central Region, Lopburi.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Northern Region,
Phitsanulok.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Central Region, Bangkok.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Eastern Region, Chonburi
(Pattaya).**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Southern Region,
Surat Thani.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Southern Region,
Songkhla.**





**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Northeastern Region,
Khon Kaen.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Northeastern Region,
Ubon Ratchathani.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism Udon Thani.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Northeastern Region,
Nakhon Ratchasima.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Northern Region,
Chiang Mai.**



**The Development of Potentials of the Radio
and Television Operators towards
Professionalism – Northern Region, Nan.**

Figure 49: Professional Capacity Building for Broadcasters in Bangkok and all Regions



2.2 The seminar project for Eastern community radio operators under on “Knowledge of radio and television broadcasting law, other related laws and knowledge on ASEAN”, on May 2-4, 2013, at Chon Inter Hotel, Chonburi Province, to develop and support quality media which are also responsible to the society and community, approachable to the community and possessing good values.



Figure 50: The Seminar Project for the Eastern Community Radio Operators under the Title “Knowledge of Radio and Television Broadcast law, Other Related Laws and Knowledge on ASEAN”.

2.3 The project to promote the development in radio and television businesses on “Encouraging the development of radio and television businesses”, on June 20-21, 2013, at the Ramada Phuket South Sea Karon, Phuket Province, to encourage radio and television operators of different types, to provide the understanding of the rights, duties, as well as to develop and promote the operators to be responsible towards the society and community, also to provide quality and proper services that truly benefit the community and society. It also included the dissemination of knowledge and skills on quality radio and television services for the society.



Figure 51: Radio and Television Broadcasting Development Project





2.4 The training on “Professionalism in cable and satellite television”, on July 26, 2013, at the Century Park, Bangkok, with the aim to promote the basic understanding on cable and satellite television, with the potential to create and produce quality programs with new technology, and which will be truly useful to the community, as well as to promote in radio and television operators, to be used as a stage to exchange knowledge and experience among those in the same profession and apply in practical use.



Figure 52: Training on “How to be Professional in Cable and Satellite Television Business”

2.5 The training on “How to produce quality news programs that are credible in radio and television” on August 27, 2013, at Swissotel Le Concorde, Bangkok, with the aim to provide journalists with the understanding of their proper role, and to provide a stage to exchange ideas and experience, to build the conscience in regards to their responsibility towards public and to develop the journalistic profession effectively.

2.6 The training on “The effect of serial movies (soap operas) on the society”, on September 19, 2013, at the Swissotel Le Concorde, Bangkok, with the aim to promote knowledge and understanding in creating soap operas that are ethical and may be adapted to real life situation.



Figure 53: Training on “The Effect of Serial Movies (soap operas) on the Society”





Figure 53: Training on “The Effect of Serial Movies (soap operas) on the Society”

2.7 The training on “Advertising in radio and television businesses within the rules of law and ethics” on October 14, 2013, at Swissotel Le Concorde, Bangkok, with the aim to promote the knowledge, ability and understanding of roles that could be adapted for practical use, and to provide a stage to exchange knowledge among operators.

2.8 The seminar for academics and professionals in ASEAN under the theme “ASEAN Media Ethics and Self-Regulations”, to exchange knowledge and to create database sharing among academics and professionals in the fields of radio and television within ASEAN, and to prepare Thai academics and professionals in approaching ASEAN Economic Community (AEC), on October 14, 2-13, at the Centara Grand at Central World Hotel, Bangkok.



**Figure 54: The Seminar on “ASEAN Media Ethics and Self-Regulations”
for ASEAN Academics and Professionals**





3. The training to promote knowledge and under-standing among radio operators in the three southern provinces.

A total of eight sessions of the training to promote knowledge and understanding among radio operators in the three southern provinces were held in 2013 in Songkhla Province, to create the necessary and sufficient knowledge to operate radio services, such as the analysis of the Thai society, the adaptation in the cases of violent situations in the three southern provinces to allow the community radio and regular radio stations in the three southern provinces to act as the disseminator of news, culture and religion of the people in the region without falling prey to the violence, as well as the understanding of the laws relating to the radio and television businesses.



Figure 55: Training on “Encouraging the Understanding and the Knowledge for Radio Broadcaster in the 3 Southern Provinces





Strategy 6: Strategy on Television and Broadcasting Transistor from Analog System to Digital System

This strategy has a goal to transition broadcasting and television operations in analog system to the digital system, to allow the effective use of spectrum according to the Article 27(5) and for no less than 20 percent of the population to make use of spectrum in broadcasting and television operations according to Article 49 and Article 85 of The Act on Organization to Assign Radio Frequency and to Resolute the Broadcasting and Telecommunication Services B.E. 2553 (2010). In 2013, the following actions have been taken:

1. The setting of criteria and method in the transition of television transmission to digital system.

1.1 The issuance of NBTC Notification on “The criteria and the permission procedure as an addition in the terrestrial digital television broadcasting network services of 2013”, with the aim for those interested in the terrestrial digital television broadcasting network services to know the criteria and the additional permission procedure, by stipulating the said criteria and the permission procedure in the terrestrial digital television broadcasting network services as an addition to the original criteria and the permission procedure as per NBTC Notification on the criteria and the permission procedure for broadcasting and television network services of 2013.

1.2 The issuance of the NBTC Notification on “The criteria and permission procedure for the use of frequencies in the digital television services of 2013”, with the aim to allow those interested in the use of spectrum for the operations to know in advance the requirements for the applicants, the procedure, criteria and documents or information necessary. Also available were the criteria of consideration, the time needed and the limitation imposed on the use of the frequencies and other conditions necessary in the use of spectrum for the digital television services.

1.3 The issuance of the NBTC Notification on “The criteria and method of selecting those to be awarded the frequencies used in the radio and television businesses of 2013”, with the aim to adhere to the NBTC Notification on the criteria and permission procedure for the use of spectrum for the radio or television services and for those requesting the permission to use spectrum for the radio and television in the commercial criteria would know in advance the criteria and the method of selecting the qualified applicants as well as other necessary conditions.

1.4 The issuance of the NBTC Notification on “The criteria, method and conditions on spectrum auction for the digital television services, of the national commercial services type of 2013”,





with the aim to allow the applicants for the use of spectrum in digital television business of the national commercial services type to learn of the criteria, method and the conditions for the auction, as well as other conditions necessary in applying for the license to use such spectrum, in order to conform with the NBTC Notification on “The criteria and permission procedure for the use of frequencies in the digital television services of 2013”, the NBTC Notification on “The criteria and method of selecting those to be issued the spectrum license in the radio and television services of 2013”, and the NBTC Notification on “The criteria and method to grant permission for radio and television services of 2012”. The services were divided into children, youth and family group, the news and documentary group, general group, and for standard definition and high definition.

1.5 The issuance of the NBTC Notification on “The technical standard for the digital terrestrial television receiver (No. 2) of 2013”, with the aim to ensure that the NBTC Notification on the technical standard for the digital terrestrial television receivers was up-to-date, efficient and most useful for the public and to promote the digital terrestrial television businesses.

1.6 The issuance of the NBTC Notification on “The exemption of communication equipment and communication station in the radio and television businesses, from having to apply for permits under the Communication Radio and Communication Station Act of 1958, of 2013”, so that communication equipment and communication station in the radio and television businesses, would not have to apply for permits so as to provide convenience for people in receiving terrestrial digital television signals, and to promote the smooth transition to digital television signals, without any obstacles in doing so.

2. Broadcasting License (Trial) for research and development of the television operation and find technical parameters.

2.1 The NBC has approved broadcasting license (Trial) for research and development of the television operations and find technical parameters by approving the MCOT Public Company Limited to broadcasting (trial) for the purpose of research and development of the television operations which would cover in seven provinces namely Bangkok, Khon Kaen, Lampang, Nakhon Ratchasima, Sukhothai, Surat Thani and Phuket, and approving the Public Relations Department from three locations – Public Relations Department, Soi Aree, Bangkok; TPBS Chiang Mai and TPBS Khon Kaen.

2.2 In addition, there was the monitoring and controlling of broadcasting (trial) of the terrestrial digital television of the Public Relations Department, Doi Suthep station in Chiang Mai, which has tested the terrestrial digital broadcasting and was in the process of calibrating the parameter which has been used in the test broadcasting as recommended by the NBTC (the same as the station in Bangkok). But during the field tests, it was found that in some spots the reception





was not viable and more calibration of the parameter was still needed. The NBTC and the Public Relations Department have measured broadcasting reception at two locations – Chiang Mai Muang District Office and at the Wat Phrathat Haripunchai, Lamphun Province.



Figure 56: Monitoring and Regulating Terrestrial Digital Television

3. Television Broadcasting (Trial) on the analog system on the network of digital television through simulcast.

During the transition period onto the telecast on the digital television services, international norms dictated that there must be a period of parallel simulcast on the analog system on the digital network to allow seamless transition of the viewers who were transitioning from the existing analog system to the digital system, which was the key success factor for the transition. As such, the NBC has mandated the parallel broadcasting during which the permit holders of the network services must broadcast on the analog system in parallel with the new digital network, but must not exceed the time period that the NBTC would set as the date on which to return the old frequencies.

4. The setting of minimum price for the auction for spectrum for digital television services.

The NBTC Office has signed the memorandum of understanding (MoU) to provide consultation in regards to the valuation of the quotation on spectrum in the digital television broadcasting businesses with Chulalongkorn University on August 20, 2013, with the aim to promote cooperation in preparing the suitable quotes for spectrum in digital television broadcasting businesses, reflecting the costs in economic and technical terms which were fair, transparent, accountable and adhering to international standard. At the same time, they must also be able to compare, workable, enforceable and most beneficial to the industry and consumers, by studying various





practices in foreign countries and comparing the criteria and methods of different countries to suit Thailand's environment, so as to arrive at the criteria and method of valuation of the costs of spectrum that were the most suitable for Thailand. The results of the study by the NBTC Office and Chulalongkorn University on the most suitable quotation for spectrum in the digital television broadcasting businesses was considered at the NBC meeting 17/2013, on May 7, 2013, and arrived at the decision as shown in Table 32:

Table 32: The Minimum Prices on Spectrum Auction for the Digital Television Business

Number	Categories	Minimum price (THB million)
1.	Children, youth and family	140
2.	News and documentary	220
3.	General variety (standard definition)	380
4.	General variety (high definition)	1,510

Source: Group of Broadcasting

5. Spectrum Auction for digital television business at the national level.

In the spectrum auction for digital television business at the national level, the major details are as follow:

5.1 The mock auction.

The meeting was held in regards to the mock auction stipulated in the draft NBTC Notification "The criteria, method and conditions for spectrum auction for the digital television business at the national level dated ..., on May 28, 2013", by arranging for the pre-mock auction so that the sub-committee could provide their opinions at the meeting of the sub-committee on the preparation of the plan to transition broadcasting and television to the digital system, and on July 1, 2013, the pre-mock auction was held to gain the information for use in amending the said draft NBTC Notification. During this meeting, representatives from many related agencies participated. The special round was also attended by many members of the media.

5.2 The meeting to provide the information on the request for license.

A meeting was held to provide information on the application for license for the use of spectrum for the digital television business at the national level, on September 3, 2013, to answer questions, or any other queries from the participants at the meeting.





Figure 57: Pre-Mock Auction for the Digital Television Business at the National level

5.3 Information Memorandum Distribution on the Auction of Digital Television Broadcasting.

Information Memorandum distribution for use in the application for license for the use of spectrum for digital television business at the national level, on September 10-12, 2013, at the NBTC Office. After three days of the sale and distribution of the auction documents, a total of 33 companies participated, with a total of 49 sets of documents purchased, divided into categories as shown in Table 33:

Table 33: The Distribution of Auction Documents

Category	Number of document (set)
Children, youth and family	8
News and documentary	12
General variety (standard definition)	17
General variety (high definition)	12
Total	49

Source: Group of Broadcasting





**Figure 58: Information Memorandum Distribution on Digital Television
Broadcasting Spectrum Auction.**



**Figure 59: Information Memorandum Distribution on Digital Television
Broadcasting Spectrum Auction.**

5.4 The information clinic on the application for license to use of spectrum for the digital television business at the national level.

An information clinic on the application for spectrum license for the digital television business at the national level was divided into three sessions (on October 3, 15, and 21, 2013, at 13.00-16.00 hrs) and one-on-one clinics on October 9-11 and 18, 2013.

5.5 The opening of application for license to use of spectrum for the digital television business at the national level.

The applications for permits to use of spectrum for the digital television business at the national level were received on October 28-29, 2013. Altogether 29 firms and 41 forms were applied for, as shown in Table 34:



**Table 34: Summary of the Applications for Permit to Use of Frequencies
for Digital Television Business at the National Level**

Category	Number (forms)
Children, youth and family	6
News and documentary	10
General variety (standard definition)	16
General variety (high definition)	9
Total	41

Source: Group of Broadcasting



Figure 60: Proposal Submission on Use of Spectrum for Digital Television Broadcasting

5.6 The preparation for the spectrum auction of digital television business at the national level.

5.6.1 For the preparation of spectrum auction in digital television business at the national level, three sessions of the demonstration and mock auction were held, namely, 1) For those submitting applications on December 12-13, 2013; 2) For the media on December 18, 2013; and, for those submitting applications on December 19-20, 2013.





Figure 61: Digital Television Broadcasting Mock Auction

5.6.2 To ensure that the auction on digital television services at the national level goes through accurately, smoothly, transparently, with fair competition and to conform with the criteria already announced by the NBC, the auction criteria for the auction was set and made up of information of the preparation of documents for the auction, the entry to the auction venue, the auction proper, the communication during the auction proceedings, the Notification and the confirmation of the auction results, the measures to ensure fairness and the benefit to the state in the auction. Also included was the preparation of the acceptance papers agreeing to keep the documents confidential and to protect from ill-gotten gains as well as the items that are permitted to be carried into auction venue.



5.7 The management of the auction for digital television service at the national level.

The auction for digital television service at the national level was held on December 26-27, 2013 at the CAT Tower, CAT Telecom Public Company Limited, Bangkok, witnessed by representatives from the Office of the Auditor General of Thailand, the management board of the Broadcasting and Telecommunications Fund for Public Interest, as well as representatives from the media. The proceedings were also telecast live on TPBS station, with the following details:

5.7.1 The auction was divided into four main groups:

- 1) Children, youth and family (three [permits])
- 2) News and documentary (seven permits)
- 3) General varieties (standard definition) seven permits, and
- 4) General varieties (high definition) seven permits

For the total of 24 licenses, the auction was carried out in accordance with the NBTC Notification on “The criteria and permission procedure for the use of frequencies in the digital television services of 2013”, the NBTC Notification on “The criteria and method of selecting those to be issued spectrum used in the radio and television services of 2013”, the NBTC Notification on “The criteria and conditions for the auction for the use of frequencies in the digital television services of 2013”, and the NBTC Notification on “The criteria and method to grant permission for radio and television services of 2012. The auction was carried out over two days as follow:

Table 35: The Spectrum Auction for Digital Television Business at the National Level

Dates	Categories
December 26, 2013	General variety (standard definition) General variety (high definition)
December 27, 2013	News and documentary Children, youth and family

Source: Group of Broadcasting

5.7.2 The list of auction winners: In the auction the winners in each of the categories listed according to the prices quoted can be seen in Table 36:





**Table 36: The List of Auction Winners on Spectrum Auction for the Digital Television
Business at the National Level (by Category)**

Number	Children, youth & family category	Number	News & documentary category
1	BEC Multimedia Co., Ltd.	1	NBC Next Vision Co., Ltd.
2	MCOT PLC.	2	Voice TV Co., Ltd.
3	Thai TV Co., Ltd.	3	Thai TV Co., Ltd.
		4	Spring News Television Co., Ltd.
		5	Thai News Network (TNN) Co., Ltd.
		6	DN Broadcast Co., Ltd.
		7	3A Marketing Co., Ltd.

Number	General variety (standard definition) category	Number	General variety (high definition) category*
1	Thai Broadcasting Co., Ltd.	1	BEC Multimedia Co., Ltd.
2	True DTT Co., Ltd.	2	Bangkok Media & Broadcasting Co., Ltd.
3	GMM SD Digital TV Co., Ltd.	3	Krungthep Television & Radio Co., Ltd.
4	BEC Multimedia Co., Ltd.	4	Triple V Broadcast Co., Ltd.
5	RS Television Co., Ltd.	5	MOCT Plc.
6	Mono Broadcast Co., Ltd.	6 joint	Amarin Television Co., Ltd.
		6 joint	GMM HD Digital TV Co., Ltd.

*In the General variety (HD) category, there were two winners in joint 6th place: Amarin Television Co., Ltd. and GMM HD Digital TV Co., Ltd. Therefore, a draw was held to establish the winning sequence in accordance with No. 9.3.1 of the NBTC Notification on “The criteria, method and conditions of the auction for the frequencies for the digital televisions services at the national level of 2013”, before proceeding to choose the service channels.

Source: Group of Broadcasting





5.7.3 The winning quotes: The winning quotes in all four categories, totaling 14 licenses worth THB 50,862 million, as shown in Table 37:

Table 37: The Winning Quotes in Four Categories

Category	Number of permits	Total winning amounts (THB million)
Children, youth and family	3	1,974
News and documentary	7	9,238
General varieties (standard definition)	7	15,950
General varieties (high definition)	7	23,700
Total	24	50,862

Source: Group of Broadcasting

5.7.4 The process to choose the station numbers for the national digital television services and the briefing on the conditions for being issue the license: The action was carried out on January 24, 2014, at the Chatriam Riverside Hotel, Bangkok, with the choosing of channel numbers for the national digital television service, and on January 27, 2014, at the Royal Thai Navy Club, Bangkok.



Figure 62: The Selection of Service Sequence in Digital Television Business at the National Level





**Figure 63: The Announcement of the Station Numbers
for the National Digital Television Broadcasting**





**Table 38: The Sequence of the Station Numbers for the National Digital Television Services
for all 24 Channels**

Channel	Children, youth & family category	Channel	News & documentary category
13	BEC Multimedia Co., Ltd.	16	Thai News Network (TNN) Co., Ltd.
14	MCOT PLC.	17	Thai TV Co., Ltd.
15	Thai TV Co., Ltd.	18	DN Broadcast Co., Ltd.
		19	Spring News Television Co., Ltd.
		20	3A Marketing Co., Ltd.
		21	Voice TV Co., Ltd.
		22	NBC Next Vision Co., Ltd.

Channel	General variety (standard definition) category	Channel	General variety (high definition) category*
23	Thai Broadcasting Co., Ltd.	30	MOCT Plc.
24	True DTT Co., Ltd.	31	GMM HD Television Co., Ltd.
25	GMM SD Digital TV Co., Ltd.	32	Triple V Broadcast Co., Ltd.
26	Bangkok Business Broadcasting Co., Ltd.	33	BEC Multimedia Co., Ltd.
27	RS Television Co., Ltd.	34	Amarin Television Co., Ltd.
28	BEC Multimedia Co., Ltd.	35	Krungthep Television & Radio Co., Ltd.
29	Mono Broadcast Co., Ltd.	36	Bangkok Media & Broadcasting Co., Ltd.

Source: Group of Broadcasting





6. Terrestrial digital television network.

In the part of the terrestrial digital television network, in order for the auction winners for the digital television services at the national level to be able to begin service operations, the following procedures have been undertaken:

6.1 Permission has been granted to the Royal Thai Army, the MCOT Public Company Limited (the Public Relations Department) and the Thailand Public Broadcasting Services (TPBS) to be the service providers for the terrestrial digital television network. The licensee for the terrestrial digital television network services under the criteria and conditions as stipulated in the NBTC Notification on “The spectrum plan for the terrestrial digital television for the benefit of the people in receiving the digital television signal”.

6.2 Setting the calculation criteria and the monitoring of the cost calculation as per the reference offer on the proposal on the use and connection of the national network for digital broadcasting—the NBTC Office has recommended the criteria for the cost calculation on the use and connection of the national network for digital broadcasting to the NBC meeting 31/2013 on August 26, 2013, and agreed with the proposal which the office has move forward to monitor the cost calculation as per the reference offer on the proposal on the use and connection of the national network for digital broadcasting on the part of service fees of four licensees, namely, the Thailand Public Broadcasting Services (TPBS), Royal Thai Army (Army Television Channel 5), MCOT Public Company Limited (Modern Nine), and the Public Relations Department (National Broadcasting and Telecommunications). The NBC meeting 37/2013 on October 14, 2013 acknowledged the service fees for the terrestrial digital television network of the Royal Thai Army, MCOT Public Company Limited, The Public Relations Department and the TPBS as proposed, and has forwarded to the NBTC Office to review the fee structure of the network, after all the permit holders have begun operations and have abided by the criteria and conditions for one year or less stipulated by the NBC.

7. The registration, testing and standard certification of the telecommunication equipment for the reception of terrestrial digital television signal.

In 2013, there have been registration of the telecommunication equipment and the issuance of sticker labels to show that they have passed the test and certification process for the equipment to received terrestrial digital television signal. The receivers are divided into the integrated digital television (iDTV) and the set-top box as shown in Table 39.





Table 39: The Registration, Testing and Standard Certification of Radiocommunications Equipment for the Reception of Terrestrial Digital Television Signal

	Integrated digital television (iDTV)	Set-top box	Total
Registration of radio equipment (type/model)	69	37	106
Sticker label showing that the radio equipment have passed the test and certification process (sticker label/per unit)	202,054	335,885	537,939

Source: Group of Broadcasting Technology and Engineering

8. Creating the cooperation, knowledge, understanding, coordination and public relations in relations to the broadcasts of digital television signal.

In order to facilitate the smooth and effective transition to the broadcasts in digital television signals, the following actions were taken in 2013:

8.1 Creating the cooperation, knowledge, understanding, coordination and public relations in relations to broadcasts of digital television signal.

8.1.1 The promotion of cooperation on the transition to the broadcasts of digital television signal, by preparing a memorandum of understanding (MoU) on the cooperation on the transition to the broadcasts of digital television signal between the NBTC Office and the National Broadcasting and Telecommunications (NBT). The details of the MoU are as follow:

- 1) For more efficient use of the UHF frequencies and in accordance with the NBTC Notification
- 2) To support the transition of the terrestrial television broadcasting of NBT to the digital system
- 3) To allow Thailand to be able to make use of the digital system sufficiently and widely

8.1.2 Attendance at international conferences as follow:

- 1) Radio Asia 2013 Conference, at Hanoi, Vietnam, which was a meeting in relations to the digital broadcasting with the aim to allow the broadcast operators, broadcast experts, regulating agencies as well as economic institutions in Asia and Pacific and other regions to exchange ideas on the broadcast operations.





Figure 64: Radio Asia 2013 Conference

2) Attendance at the 12th ASEAN Digital Broadcasting (ADB) Conference at Vientiane, Laos, to prepare proposals to the ASEAN Ministers Responsible for Information (AMRI), which was participated in by 53 representatives from ASEAN members states – Brunei Darussalam, Cambodia, Indonesia, the Philippines, Singapore, Thailand, Myanmar, Vietnam and China, as well as officials from ASEAN Secretariat.



Figure 65: The 12th ASEAN Digital Broadcasting (ADB)





8.1.3 The hosting of workshops and various meetings:

1) The technical workshop on “Go Digital Workshop: DVB-T2 Implementation” on June 13-14, 2013, at the Century Park Hotel, Bangkok, with an aim to develop and promote knowledge and experience in the expansion of the DVB-T2 network. Foreign experts from ITU, DVB and a broadcasting state enterprise from New Zealand honored the workshop as guest speakers on the topics of network expansion and the current technology.



Figure 66: Go Digital Workshop : DVB-T2 Implementation

2) The workshop participated in by licensee for the terrestrial digital television network in order to understand the process of licensing communication equipment and spectrum planning, on November 14, 2013, at the NBTC Office, with an aim to foster understanding among licensee for the terrestrial digital television network on the process and steps for the licensing of equipment, such as the import of communication radio devices, the setting up of communication radio stations, as well as the necessary document, the technical consideration to prepare the readiness to provide the services, as well as to provide the details of the analysis of the use of spectrum according to the spectrum plan for the terrestrial digital television services

3) The technical workshop together with the International Telecommunication Union (ITU) under the name “NBTC/ITU Workshop on Digital Radio Technologies” on March 1-3, 2013, at the Emerald Hotel, Bangkok, and the MCOT Public Company Limited according to the second VCA entitled “Project on Roadmap Development for Digital Terrestrial Radio Roll Out in Thailand” between NBTC and the ITU which has set the training, the transfer of knowledge and the personnel development, so as to prepare for the readiness to produce the criteria and the certification process for spectrum to be used in the terrestrial digital broadcasting and to promote knowledge among the personnel in the radio operations with participants from ASEAN and radio operators.





4) The technical workshop on “Digital Radio Technologies and Implementation” on October 22, 2013, in preparation for the readiness to begin the radio transmission in the digital system, and to promote the knowledge among the personnel in the radio broadcasting operations at the NBTC Office, as well as the radio operators from the public and private sectors, such as the MCOT Public Company Limited, the Royal Thai Army and the Public Relations Department.



Figure 67: Digital Radio Technologies and Implementation Workshop

5) The meeting on the technical standard registration for the DVB-T2 set-top box, to promote the knowledge and understanding on the technical standard registration for the DVB-T2 set-top box to manufacturers/importers/operators/NBTC Office staff. Four meetings were held at the NBTC Office.



Figure 68: The Meeting on Technical Standard Registration for the DVB-T2 Set-top Box





8.2 The promotion of the transition to terrestrial digital television.

To ensure that the population was well prepared for the transition to terrestrial digital television. The following was carried out in 2013:

8.2.1 The event “Moving Thailand towards the Terrestrial Digital Television” on July 24, 2013, at The Sukosol Hotel, Bangkok. In addition to the permit presentation ceremony for the operation of terrestrial digital television to the four operators as previously stated, there was also the launch of the “Nong Doo Dee” logo and mascot, under the theme “Digital TV for Every Home”.



Figure 69: “Nong Doo Dee” Logo and Mascot, under the Theme “Digital TV for Every Home”

8.2.2 The event/exhibition to acquaint the population and foster understanding of the transition to terrestrial digital television, as well as to promote the widespread understanding of the participating public of the readiness to switch to digital television, by creating acknowledgement and mindfulness through the introduction of the logo and mascot in the promotion and activities to promote the transition to digital television as follow:

- 1) Thailand Broadcasting Exhibition (Thai BEX)
- 2) Thailand 2013 World Stamp
- 3) ITU Telecom World 2013
- 4) NBTC Campus Tour at Rajabhat Nakhon Ratchasima University
- 5) Exhibition at Self-Regulation on Broadcasting Conference 2013





Figure 70: The Promotion of the Transition to Terrestrial Digital Television System





8.2.3 The publication of the handbook on the application of the digital television sticker labels as authorized by the NBTC, to promote and create understanding among the public of the equipment that have passed the inspection and certification by NBTC and promote confidence among the service users and consumers to choose the proper equipment.

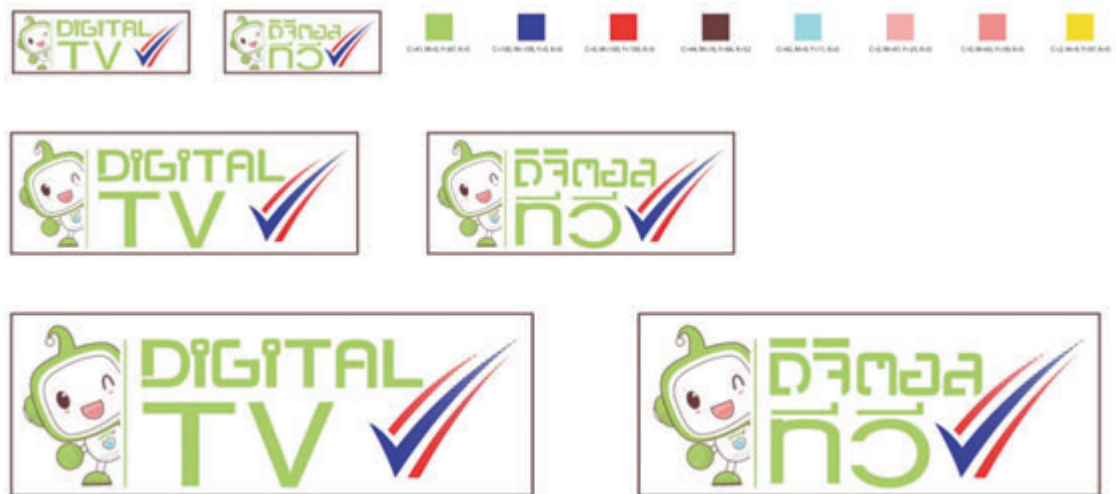


Figure 71: Authorized Sticker Labels for the Digital Television Equipment Passing Inspection and Certification by the NBTC





Strategy 7: Strategy on the Development of the Management into an Efficient Regulatory Body

The development of the management into an efficient regulatory body – In 2013, the effort could be summarized into two main dimensions as follow: 1) The monitoring and assessment of the progress made in regards to the First Broadcast Master Plan (2012-2016), and, 2) The management and development of the NBTC Office personnel responsible for television broadcasting, as follow:

1. The monitoring and assessment of the progress made in regards to the First Master Plan on Broadcasting (2012-2016).

The monitoring and assessment of the progress made in regards to the master plan on broadcasting and television was a tool in the execution of the master plan so as to know the progress, problems and obstacles in the process to report to the NBC so that solutions could be found to address them and completely reach all the set the goals. Therefore, the process must be continuous and in 2013, the following have been carried out:

1.1 Setting up the stages twice for which to convey the policy, exchange ideas, and review the progress of every committees involved, including the key personnel at the NBTC Office, as shown in Table 40.

**Table 40: The Meeting in Exchanging the Ideas and Reviewing the Process
of the Broadcasting Master Plan (2012-2016)**

No.	Agenda	Date	Location
1.	The workshop on broadcasting and television to review past achievements and set new direction for 2013 according to the strategy on the master plan on television broadcasting.	March 23-24, 2013	Royal Cliff Beach Hotel, Pattaya, Chonburi
2.	The workshop between the NTC and the sub-committee on the tasks related to broadcasting and television to summarize the progress according to the master plan within 2013 and review the process according to the master plan which would be carried out, as well any problems or obstacles that may occur.	September 24, 2013	Centara Grand Ladprao Hotel, Bangkok

Source: Group of Broadcasting Corporate Affairs





Figure 72: The Workshop on Television Broadcasting to Review Past Achievements and Set New Direction for 2013

1.2 The introduction of tool to promote the understanding of the process in the effective preparation of the action plan, so as to arrive at the solution to the strategy as outlined in the master plan. The setting of minor goals could act as the measurement of the milestones in the proper fashion on the principle of SMART (specific, measurable, achievable, relevant and timely) goals. Also to determine the way to follow up and manage the action plan at the project level, and to prepare the project progress report for the relevant NBTC Office staff, by inviting experts to speak at the three workshops so as to use the knowledge to adjust and help move forward in accordance with the master plan in an effective way. The three workshops were held on April 25, 2013, May 16-17, 2013 and June 12, 2013.

1.3 The commissioning of outsourced experts (from Academic Service Center, National Institute of Development Administration) to follow up and assess the work process in accordance with the master plan in their role as the third party, along with the follow up by the relevant NBTC Office staff, so that the information can be calibrated and collated. In 2013, a total of four progress reports (for the four quarters) were produced.

1.4 The start of the process to analyze the evolving situation of the media as a result of the implementation of the First Broadcasting Master Plan (2012-2014), which required the relevant persons in every region to provide their opinion on the implementation of the master plan which could lead to changes or lead to the change process of the structure involved in the country's broadcasting and television according to the intent of the media reform in all the regions through eight seminars, as shown in Table 41.





**Table 41: Multilateral Radio and Television Broadcasting on “Changing Media:
Resulting from the Broadcasting Master Plan”**

No.	Date	Location	Target group
1.	July 20, 2013	Surat Thani	Surat Thani, Chumphon, Ranong, Phangnga, Phuket, Krabi, Nakhon Sri Thammarat
2.	August 16, 2013	Songkhla	Trang, Phatthalung, Satun, Songkhla, Pattani, Narathiwat, Yala
3.	September 20, 2013	Kanchanaburi	Kanchanaburi, Ratchaburi, Phetchaburi, Prachuab Khiri Khan, Suphanburi
4.	October 26, 2013	Bangkok	Bangkok, Chainat, Lopburi, Saraburi, Nakhon Nayok, Trat, Chanthaburi, Rayong, Chonburi, Chachoengsao, Srakaew, Prachinburi
5.	November 1, 2013	Udon Thani	Loei, Nongbualamphu, Nongkhai, Udon Thani, Buengkan, Sakon Nakhon, Nakhon Phanom
6.	November 15, 2013	Khon Kaen	Khon Kaen, Chaiyaphum, Nakhon Ratchasima, Buriram, Surin, Si Sa Ket, Roi-et, Amnartcharoen, Ubon Ratchathani, Yasothon, Maha Sarakham, Kalasin
7.	November 29, 2013	Phitsanulok	Sukhothai, Phitsanulok, Phetchabun, Khamphaengphet, Phichit, Nakhonsawan, Uthai Thani
8.	December 31, 2013	Chiang Mai	Chiang Mai, Maehongson, Lamphun, Lampang, Phayao, Chiang Rai

Source: Group of Broadcasting Technology and Engineering





Figure 73: Seminar on “Dynamic Media, resulting from the Broadcasting Master Plan”





2. The management and development of the NBTC Office personnel responsible for television broadcasting.

As is known that the mission of regulating the television broadcasting businesses have begun only in the past two years, since the Royal Command announced the appointment of the NBTC. The implementation, and management process in getting the personnel up and running were the most important factors in the tasks at hand. In 2013, the following implementations have been done:

2.1 The recruitment and selection of additional personnel. The number of the NBTC Office personnel working on broadcasting and television tasks as of 2013 was still inadequate compared to the tasks at hand. Due to this shortfall, there have been recruitments to select the suitable personnel to work on broadcasting and television tasks. The process for the selection, written tests and interviews have been put in place, although the actual processes were still not completed in 2013 and would continue into 2014.

2.2 Personnel development. This must be carried out on a continuous basis especially for an organization burdened with new tasks and involving businesses that were fast changing along with the technology and other factors. The types of training offered in 2013 included: 1) Localized training to improve work skills, such as the Leadership Development Program in cooperation with the SASIN Institute, presentation skills and the skills in writing terms of reference (ToR); 2) The training programs arranged with the support of institutions and regulatory bodies abroad, so as to learn new technologies and developments, as well as to exchange the experience in the regulatory processes, such as Broadcast Regulations program, Contents Regulation of Media: Pluralism, Minorities, Personal Rights and Security program, Broadcasting Technologies & Policy program and Digital Broadcasting Laws & Regulations and Competition program; and, 3) Assigning personnel to attend training course with other agencies, such as the training on administrative laws.

2.3 The long-term development on the abilities of the organization (continuous). After the functional competencies in the broadcasting and television tasks have been drawn up in 2012, in 2013, the assessment of individual staff have been carried out so that the employees themselves and their supervisors will be aware of their competencies that are needed, or those that are needed to be improved. And also to identify the proper direction to take in the big picture and in the long term for the utmost efficiency of the organization.





Major Achievements of the National Telecommunications Commission (NTC) in 2013

After the First Master Plan on Telecommunications of 2012-2016 became effective, the NBTC by the National Telecommunication Commission (NTC) has assigned the NBTC Office to proceed according to the strategies as stipulated in the master plan. These six strategies are:

- 1) Strategy on the development and promotion of free and fair competition
- 2) Strategy on the permission to use spectrum and permission to commence operation
- 3) Strategy on the efficient utilization of telecommunication resources
- 4) Strategy on the thorough basic telecommunication services
- 5) Strategy on the consumer protection in the telecommunication business
- 6) Strategy on the preparation and readiness to join the ASEAN Economic Community (AEC) and the promotion of international cooperation





Strategy 1: Strategy on the Development and Encouragement of Free and Fair Competition

In 2013, the NBTC has assigned NBTC Office to monitor the competitive situation in the telecommunication market as at the end of third quarter 2013, divided according to markets as per NTC Notification on the definition of the markets and the scope of the peripheral telecommunication markets of 2013. The competitive situation in the telecommunication markets can be summarized thus: The retail market, the competition is stabilized and concentrated only with the major service providers; as for the wholesale market in which only information from the communication access market and the inter-connection market was available, it was found that the market value is concentrated only in the inter-connection market.

1. Retail market.

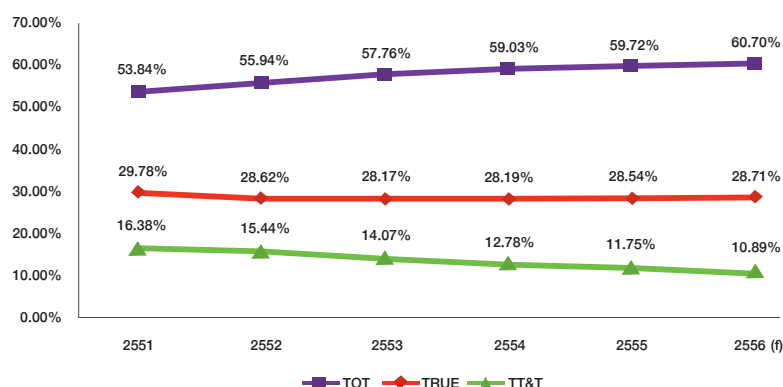
1.1 Fixed line services.

At current, the number of fixed line subscribers totaled 6.11 million numbers – a 4.23-percent reduction from 6.38 million numbers recorded in 2012 due to the saturated market leading to the slowing down of the demand and other factors, including the life cycle of the PSTN technology and the replacement technology that more effectively answered the needs of the consumers that satisfied the modern lifestyle replete with many choices, along with the service fees that were comparatively cheaper compared to the versatility.

Market share of the fixed line telephones

From 2008 to 2013, the TOT's share increased by 2.33 percent annually, while the market share of TRUE and TT&T declined by 0.73 percent and 7.84 percent, respectively, as shown in Graph 10.

Graph 10: Statistics and Trend of Market Shares of Fixed-Line Telephones during 2008-2013



f: Estimated information

Source: Information Center and Telecommunication Economics Research,
Group of Telecommunication Policy and Resources Management

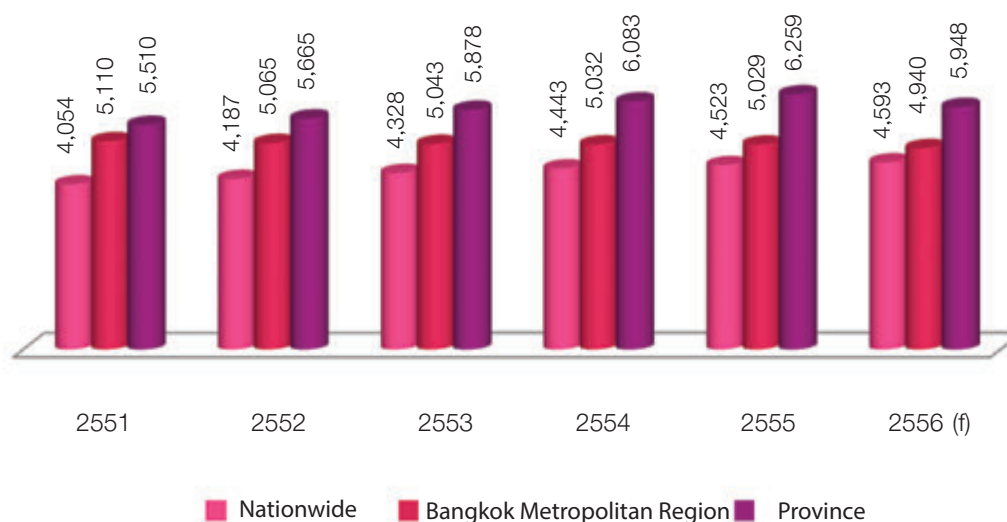




Competition intensity

From the above market share information, it is possible to calculate the Herfindahl-Hirschman Index (HHI), which is the index used to determine the level of competition used internationally. The nationwide HHI for 2013 was 4,593, divided into 5,948 HHI in the provinces, 4,940 HHI in Bangkok Metropolitan, as shown in Graph 11, without any new player in the market. This goes to show that the concentration of the fixed line telephone services is high and were served only by the same major players. The main reason for this is the nature of the fixed line telephone service which necessitated a high level of investment – a fact that served as the natural barrier to competition. The entry of new players were deterred by several factors under the conditions of the contract until any new investment in the new fixed line telephone service would not be commercially viable. Furthermore, the saturated market and the consumers' behavior which has changed towards the replacement with newer technologies that more conveniently answered their needs and lower costs. Please see the trend of market share for fixed line telephone service in Thailand.

Graph 11: The Level of Competition (HHI) of Fixed-Line Telephone in 2013



f: Estimated information

Source: Information Center and Telecommunication Economics Research,
Group of Telecommunication Policy and Resources Management

1.2 Mobile Services.

The number of mobile subscribers in 2013 totaled 91.18 million numbers, an increase of 7.26 percent from 85.01 million numbers in 2012. However, this growth rate was on the decrease.

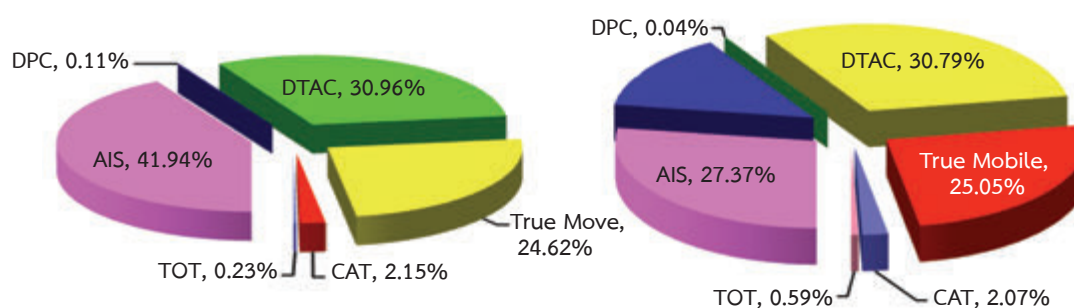




Market Share and the Level of Competition.

Considering the market share of mobile services in 2013, Total Access Communications (DTAC) had the biggest share at 30.79 percent, followed by Advance Info Service (AIS) at 27.37 percent. AIS's market share significantly dropped in 2013 compared to 2012 when it had 41.94 percent. Perhaps that was due to the move to Advance Wireless Network (AWN) by its subscribers. In third place was True Mobile which comprised of True Move and True Move H with a 25.05-percent market share. The other service providers included AWN at 14.08 percent, Digiphone (DPC), CAT Telecom, TOT & MVNOs (3G) with 2.49 percent, as shown in Graph 12. The HHI value for the mobile market in 2013 was 2,528, divided into Pre-paid at 2,613, and post-paid at 2,394, as shown in Graph 13.

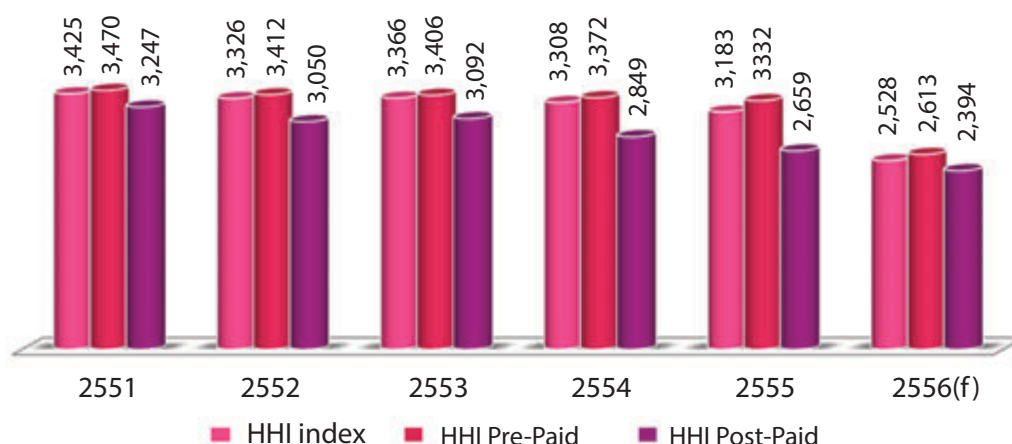
Graph 12: Market Shares for Mobile Services in 2013.



f: Estimated Information

Source: Information Center and Telecommunication Economics Research,
Group of Telecommunication Policy and Resources Management

Graph 13: The Level of Competition (HHI) of Mobile Telephone in 2013



F: Estimated Information

Source: Information Center and Telecommunication Economics Research,
Group of Telecommunication Policy and Resources Management



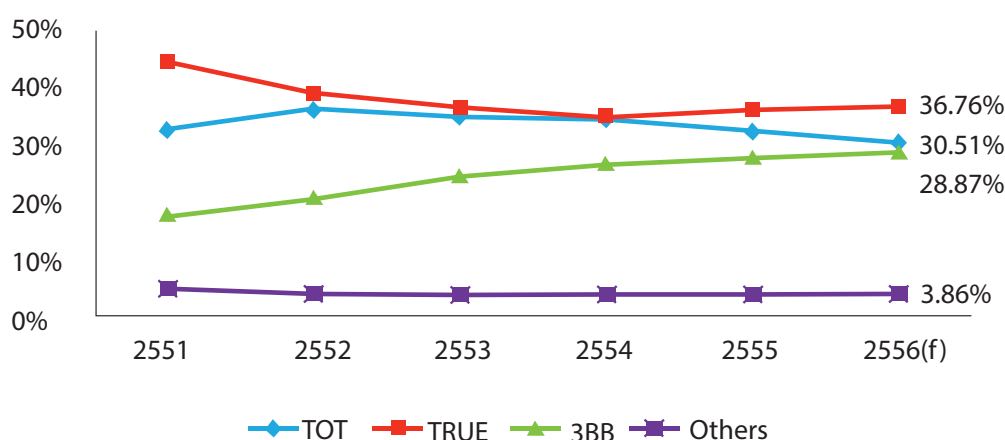


1.3 Internet Services.

Market share and the level of competition.

Analyzing the current competitive situation in the high-speed internet market, it was found that most service providers are the same ones as those providing fixed line telephone services, most of whom set up affiliated companies to provide internet services. The network owners who already have the line network in place to be the internet service providers would have an advantage in terms of investment as the infrastructure were already in place and the fees charged to customers could be kept low. The market share of the xDSL internet connections were all major players connected with the fixed line service providers. Taking 2008-2013 period, in 2013, the market leaders in the high-speed internet were True Internet (TRUE) with a 36.67 percent share, an increase from 36.07 percent in 2012, second is TOT at 30.51 percent – a decrease from 32.41 in 2012. Aside from those, 3BB increased its share in 2013 at 28.87 percent from 27.89 percent in 2012. Meanwhile, other ISP service providers not involved in providing PSTN services has a market share of only 3.86 percent in 2013 – an increase from 3.65 percent in 2012, as shown in Graph 14. As for the HHI, there was a continuous decrease from 2008 to 2013 at 3,131, as shown in Graph 15.

Graph 14: Market Share of Internet Services in 2013



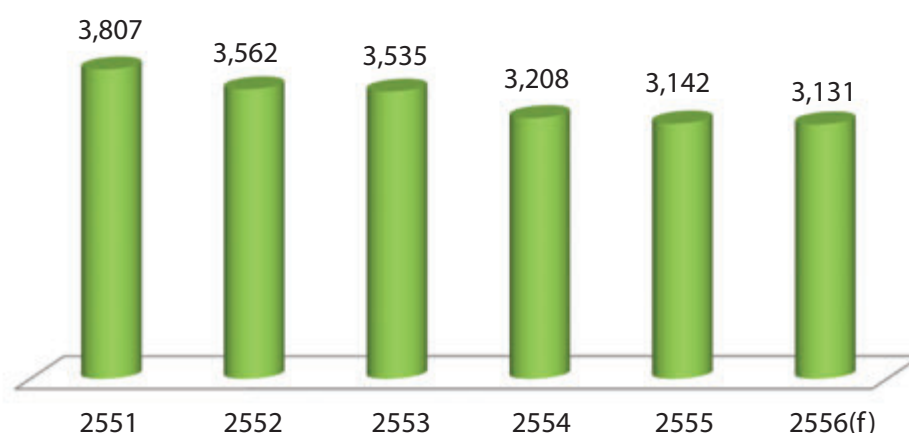
F: Estimated Information

Source: Information Center and Telecommunication Economics Research,
Group of Telecommunication Policy and Resources Management





Graph 15: The Level of Competition (HHI) of Internet Services in 2013



F: Estimated Information

Source: Information Center and Telecommunication Economics Research,
Group of Telecommunication Policy and Resources Management

2. Wholesale Market.

At this point, or the wholesale market, only information on telecommunications Network Access and Interconnection market were available. Currently, the NBTC Office still had little information on telecommunication wholesale market, therefore, the current report could not separate into more details, but to offer only information on access and interconnection.

2.1 Telecommunications Network Access.

The access network, as in the NTC Notification on the use and connection to the telecommunication network of 2006 means the access to telecommunication network by the telecommunication service providers under technical and commercial agreement to use the telecommunication network or to provide telecommunication services through telecommunication network and to cover access service to receive and transmit wireless telecommunication signals for other roaming service providers, in accordance with the criteria and method stipulated by the committee.

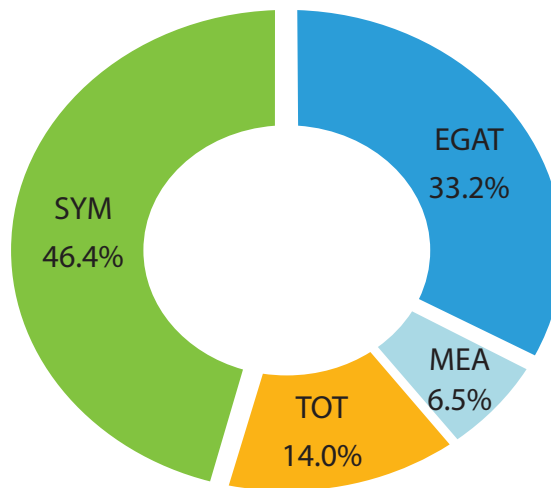
To summarize, the access service is the activity of a service provider to rent the network of another operator with a network to service its own clients.

At current, there were four service providers with leased lines who submitted their service fee information to the NBTC Office. Since no third quarter 2013 information was still unavailable, the information for the second quarter of 2013 is as follow: Symphony Communication Plc. (SYM)'s fees represented 46.4 percent. Second was the Electricity Generating Authority of Thailand (EGAT) at 33.2 percent, TOT Plc. At 14.0 percent, and Metropolitan Electricity Authority (MEA) at 6.5 percent, as shown in Graph 16





Graph 16: Market Share for Access Service for Leased Lines in 2013 (up to 2nd Quarter)



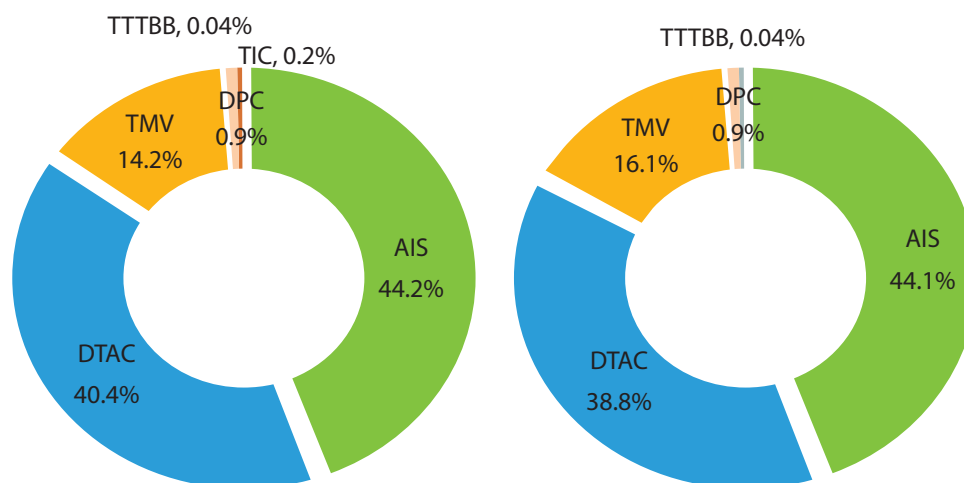
Source: Group of Telecommunication Policy and Resources Management

2.2 Interconnection Market.

When classifying the market share of the interconnection that the service providers have submitted to the NBTC Office by the second quarter of 2013, it was found that Advance Info Service Co., Ltd. (AIS) had the highest share at 44.2 percent, followed by Total Access Communication Plc. (DTAC) at 40.4 percent, True Move (TMV) at 14.2 percent, Digiphone Co., Ltd. (DPC) at 0.9 percent, True International Communication Co., Ltd. (TIC) at 0.2 percent, and Triple Tee Global Net Co., Ltd. (TTTBB) at 0.04 percent.

Thus, the market shares of interconnection are AIS at 44.2 percent, DTAC at 40.4 percent, TMV at 14.2 percent, DPC at 0.9 percent, TIC at 0.2 percent, and TTTBB at 0.04 percent, as shown in Graph 17.

Graph 17: Market Share for Interconnection in 2013 (up to 2nd Quarter)



Source: Group of Telecommunication Policy and Resources Management





2.3 Internet gateway market.

The internet gateway service means the central internet exchange which are divided into two types:

- 1) National Internet Exchange (NIX)
- 2) International Internet Gateway (IIG), which in general the service providers for the two type would be the same.

The market structure of NIX and IIG.

The internet gateway service providers which have regularly submitted their reports consisted of nine service providers – all nine provided both the NIX and IIG services, namely:

1. TOT Telecommunications Plc.
2. Advanced Data Network Communications Co., Ltd. (ADC)
3. BB Connect Co., Ltd. (BB Connect)
4. CS Loxinfo Plc. (CSL)
5. Jastel Network Co., Ltd. (Jastel)
6. Super Broadband Network Co., Ltd. (SBN)
7. T.C.C. Technology Co., Ltd. (TCCT)
8. TRUE International Gateway Co., Ltd. (TIG)
9. TOT Plc. (TOT)

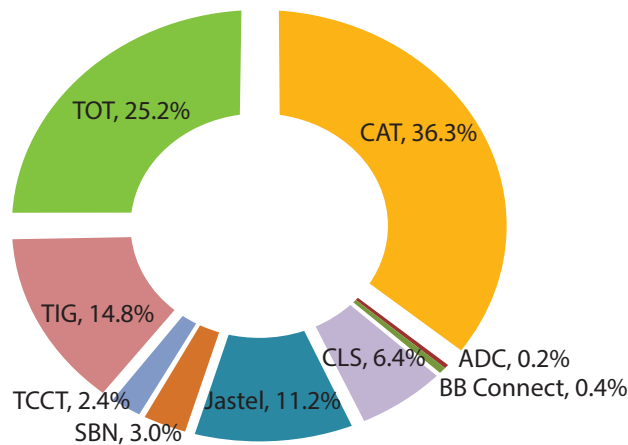
1) The market share of the National Internet Exchange (NIX)

When classifying the NIX market share by using the cost per band width counted in gigabit/second (GBps) and calculated from the two parts of speed value: 1) The connection speed between the local internet service providers (ISP) and the Thailand Internet Exchange (IX), and 2) The connection speed between the Thailand Internet Exchange (IX) and Thailand Internet Exchange (IX), it was found that, at the end of the third quarter of 2013, CAT had the highest share at 36.3 percent, TOT at 25.2 percent, TIG at 14.8 percent, Jastel at 11.2 percent, CSL at 6.4 percent, SBN at 3.0 percent, TCCT at 2.4 percent, BB Connect at 0.4 percent and ADC at 0.2 percent, as shown in Graph 18.





Graph 18: Market Share of National Internet Exchange (NIX) in 2013 (up to 3rd Quarter 2013)

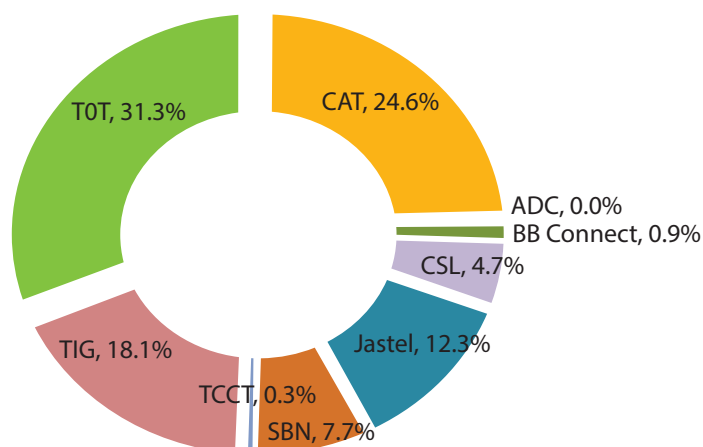


Source: Group of Telecommunication Policy and Resource Management

2) The market share of the International Internet Gateway (IIG)

When classifying the IIG market share by using the cost per bandwidth counted in gigabit/second (GBps) and calculated from the two parts of speed value: 1) The connection speed between International Internet Gateway (IIG) and the International Internet Provider, and 2) The connection speed between the local internet service providers (ISP) and the International Internet Provider, it was found that, at the end of the third quarter of 2013, TOT had the highest share at 31.3 percent, CAT at 24.6 percent, Jastel at 12.3 percent, SBN at 7.7 percent, CSL at 4.7 percent, BB Connect at 0.9 percent, TCCT at 0.3 percent, BB Connect at 0.4 percent and ADC at 0.0004 percent, as shown in Graph 19.

Graph 19: Market Share of International Internet Gateway in 2013 (up to 3rd Quarter of 2013)



Source: Group of Telecommunication Policy and Resource Management





The NBTC has also reviewed or amended the regulations and criteria that may hinder the competition in the telecommunication services, or the criteria that oversee the promotion of competition, such as:

1. The development of the draft NBTC Notification on “The definition of ‘market’ and the scope of the related telecommunication markets of...”, to clarify and make transparent the consideration of the competition in the related telecommunication markets. And in No. 12 of this draft Notification, it has been stipulated that the committee should analyze and assess the related markets every two years or as stipulated by the committee as it sees fit, by taking into consideration the changes in technology, the market demand and the condition of the competition.

2. The development of the draft NBTC Notification on “The criteria and method of consideration of the dominant force in the telecommunication businesses of ...”, to adjust and amend the NBC Notification of 2009 wherein No. 10 which stipulated the secretary must prepare the analysis of the competition in the market in relations to the criteria and condition as in No. 7, No. 8 and No. 9, while also identifying the dominant force relevant to each of the markets. If necessary, recommendations may be made on the ad hoc rules to be submitted to the committee for consideration every two years, or as stipulated by the committee as it sees fit, by taking into consideration the changes in technology, the market demand and the condition of the competition. The draft announcement may be presented at a public hearing and submitted to the NTC and NBTC, respectively, in 2014.

3. To set the guideline in anticipation of the expiration of the concessions or the contracts for telecommunication operations, by issuing the NBTC Notification on “The measures to temporarily protect the consumers on the event of the expiration of the concessions or the contracts for mobile telephone services of 2013”, and to further enforce the notification.

In addition, in the strategy on the development and promotion of the free and fair competition, the announcements, criteria, rules and the regulations on the control of the services have been invoked as in the following:

1. The regulation of the telecommunications and radiocommunication operations.

In 2013, the regulation of the telecommunications and radiocommunication operations have conformed with The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), the Telecommunication Business Act of 2001, and the Radiocommunications Act of 1955, as well as the Amendments, and of criteria, rules, regulations, notification and conditions in the permits to allow all parties to follow accordingly without damage to one or the other. Also implemented was the follow-up on the operations of the telecommunication services and radiocommunications, and to issue warnings in cases where the conditions were not followed, and to investigate fairly and honestly dispute cases, which would then lead to the operators being able to compete freely and fairly, including the benefit to the consumers in the form of quality services and fair prices, as shown in Table 42.





Table 42: The Regulation of the Telecommunications and Radiocommunication Operations in 2013

The regulation of the telecommunications				
1.	Checking facts on the operation of telecommunication services which may break the law, rules, regulations, NBTC regulations and NBTC orders	No.	13	cases
2.	Investigating facts of the operators of telecommunications, check and/or request to act on the complaints of telecommunication operators	No.	1	cases
3.	Checking facts when complaints are received from telecommunication operators or as requested by the NTC meeting	No.	6	cases
4.	Inspecting telecommunication devices and permits	No.	3	cases
5.	Search and arrest those found to have contravened the Radio Communication Act of 1955	No.	15	persons

Source: Group of Telecommunications Enforcement

In addition, the NBTC has worked to ensure that the service provided by the telecommunication operators follow the international standard in terms of criteria, rules, regulations, notification and conditions in all the permits. All those involved must strictly adhere to these and the NBC announcement on the standard and quality of telecommunication services, audio type, and the NBTC Notification on standard and standard of telecommunication services, data type for the mobile telephone network, as shown in Table 43.

Table 43: The Regulation of the Telecommunications Operations for Mobile Telephone Network in 2013

Number	Task/project	Result
1.	Checking and analyzing the quality and the standard of mobile telephone service in Bangkok, suburb and province	121 province (some provinces repeated)
2.	Checking the quality of mobile telephone services as per complaints	49 cases
3.	Checking the quality of mobile telephone under special tasks as assigned by the NBTC and NBTC Secretary	8 times

Source: Group of Telecommunications Enforcement





2. The regulation on telecommunications network access and interconnection.

2.1 The regulation on telecommunications network access and interconnection and the reference interconnection offers.

2.1.1 Reference interconnection offers (RIO).

According to the Office of National Telecommunications Commission (NTC) Notification on Telecommunications Network Access and Interconnection B.E. 2549 (2006), stipulating that the licensee for telecommunication network must prepare the offers to provide service for telecommunications network interconnection service specified by the Commission. There's 8 reference interconnection offers have been considered, and three have been approved, as shown in Table 44.

Table 44: Reference Interconnection Offers (Approved in 2013)

Number	Company	Date approved
1.	Advance Wireless Network Co., Ltd.	NTC decision 17/2013 May 10, 2013
2.	DTAC Network Co., Ltd.	NTC decision 17/2013 May 10, 2013
3.	Real Future Co., Ltd.	NTC decision 17/2013 May 10, 2013

Source: Group of Telecommunications Access

The five reference interconnection offers were still in the consideration process, as shown in

Table 45: Non-Approval of Reference Interconnection Offers in 2013

Number	Company
1.	True Corporation Plc.
2.	Triple T Broad Band Co., Ltd.
3.	Triple T Global Net Co., Ltd.
4.	Connectsia Co., Ltd.
5.	Fiber Nano Co., Ltd

Source: Group of Telecommunications Access





2.1.2 Reference Access Offer (RAO)

According to the Office of National Telecommunications Commission (NTC) Notification on Telecommunications Network Access and Interconnection B.E. 2549 (2006), stipulating that the licensee with his own network must provide the reference access offers (RAO) to the NTC for consideration before negotiating with other licensee to access the telecommunication network, in 2013, There's 15 RAOs have been considered, and four have been approved, as shown in Table 46.

Table 46: The Approval of Reference Access Offers in 2013

Number	Company	Date approved
1.	Symphony Communications Plc. (international internet gateway service and type 2 internet network service)	NTC decision 7/2013 February 12, 2013
2.	Symphony Communications Plc. (international personal leased circuit)	NTC decision 12/2013 April 3, 2013
3.	Total Access Communications Plc. (receive/transmit wireless telecommunication signal for other operators)	NTC decision 12/2013 April 3, 2013
4.	Total Access Communications Plc. (Amendment)	NTC decision 12/2013 April 3, 2013

Source: Group of Telecommunications Access





Non-Approval of Reference Access Offers as shown in Table 47.

Table 47: Reference Access Offers which were still in the Process of Approval

Number	Company
1.	True Corporation Plc.
2.	Triple T Broad Band Co., Ltd.
3.	Super High Speed Internet Co., Ltd.
4.	Connectsia Co., Ltd.
5.	Fiber Nano Co., Ltd
6.	ThaiCom Plc.
7.	Amnex Co., Ltd.
8.	BB Connect Co., Ltd.
9.	CS Loxinfo Plc.
10.	Elite Tech Co., Ltd.
11.	Simat Co., Ltd.

Source: Group of Telecommunications Access

Therefore, the reference access offers and reference interconnection offers above have been widely announced by each operator and published on the NBTC website. In addition, the licensee were in need of the convenience in their request for proposal documents for access and interconnection and did not collect any document or processing fees without good reasons.





2.1.3 Contracts for Telecommunications Network Access

After the reference access offers (RAO) have been approved by the NTC, the licensee with his own network is duty bound to publish such an approval to the public. And if an entity request to access network, the licensee with his own network and the licensee requesting network access to prepare the contract for access telecommunication network. Once the two parties have agreed and has signed a contract, the contract would have to be submitted to the NTC for consideration as stipulated in the NTC Notification on Telecommunications Network Access and Interconnection B.E. 2549 (2006).

In 2013, one such contract has been submitted to the NTC for consideration and is now in process, as shown in Table 48.

Table 48: Non-Approval of Reference Access Offers Agreement in 2013

Number	Company	Date approved
1.	Total Access Communications Plc.	
	DTAC Trinet Co., Ltd.	

	Licensee with his own network
	Licensee requesting network access

Source: Group of Telecommunications Access

As such, the licensee with his own network must disclose contracts for telecommunications network access to the public in order to be transparent and fair to other licensee. The NBTC Office has also published the contract on NBTC Office website.

2.1.4 Contracts for Telecommunication Network Interconnection.

After reference interconnection offers has been approved by the NTC, the licensee with his own network is duty bound to publish such an approval to the public. And if an entity request to access to the telecommunication network, the licensee with his own network and the licensee requesting network interconnection have to enter into negotiation to prepare the contract for interconnection. Once the two parties have agreed and has signed a contract, the contract would have to be submitted to the NTC for consideration as stipulated in the NTC Notification on Telecommunications Network Access and Interconnection B.E. 2541 (2006).

In 2013, 29 such contracts have been submitted to the NTC for consideration and five have been approved, as shown in Table 49.





Table 49: Approval of Interconnection Agreement in 2013

Number	Company	Date Approved
1.	CAT Telecom Plc	NTC decision 1/2013 January 9, 2013
	Otaru World Corporation	
2.	Advance Info Service Plc.	NTC decision 18/2013 May 18, 2013
	True Universal Convergence Co., Ltd.	
3.	True Universal Convergence Co., Ltd.	NTC decision 18/2013 May 18, 2013
	Advance Info Service Plc.	
4.	Total Access Communications Plc.	NTC decision 38/2013 October 29, 2013
	DTAC Trinet Co., Ltd. (3 rd amendment)	
5.	Total Access Communications Plc.	NTC decision 38/2013 October 29, 2013
	True Universal Convergence Co., Ltd. (1 st amendment)	
		Licensee with his own network
		Licensee requesting network interconnection

Source: Group of Telecommunications Access

The 24 contracts for Interconnection were still in the consideration process with the NTC, as shown in Table 50.

Table 50: Non-Approval of Interconnection Agreements

Number	Company	Date Approved
1.	True Move Co., Ltd.	-
	True International Corporation Co., Ltd. (2 nd amendment)	
2.	True Universal Convergence Co., Ltd.	-
	True Move Co., Ltd. (1 st amendment)	
3.	True Universal Convergence Co., Ltd.	-
	True International Communications Co., Ltd. (1 st amendment)	





Number	Company	Date Approved
4.	Total Access Communications Plc.	-
	True Move Co., Ltd.	
5.	DTAC Trinet Co., Ltd.	-
	Total Access Communications Plc.	
6.	True Universal Convergence Co., Ltd.	-
	Total Access Communications Plc.	
7.	True Universal Convergence Co., Ltd.	-
	Advanced Wireless Network Co., Ltd.	
8.	True Move Co., Ltd.	-
	Real Future Co., Ltd.	
9.	True Move Co., Ltd.	-
	Advanced Wireless Network Co., Ltd.	
10.	Real Future Co., Ltd.	-
	True Move Co., Ltd.	
11.	True Universal Convergence Co., Ltd.	-
	Real Future Co., Ltd.	
12.	Real Future Co., Ltd.	-
	True International Communications Co., Ltd.	
13.	Real Future Co., Ltd.	-
	True Universal Convergence Co., Ltd.	
14.	Real Future Co., Ltd.	-
	DTAC Trinet Co., Ltd.	
15.	Real Future Co., Ltd.	-
	Advanced Wireless Network Co., Ltd.	
16.	Real Future Co., Ltd.	-
	Advance Info Service Plc.	
17.	Real Future Co., Ltd.	-
	Total Access Communications Plc.	





Number	Company	Date Approved
18.	Advance Info Service Plc.	-
	Real Future Co., Ltd.	
19.	Advanced Wireless Network Co., Ltd.	-
	Real Future Co., Ltd.	
20.	DTAC Trinet Co., Ltd.	-
	Advanced Wireless Network Co., Ltd.	
21.	DTAC Trinet Co., Ltd.	-
	Real Future Co., Ltd.	
22.	DTAC Trinet Co., Ltd.	-
	True Move Co., Ltd.	
23.	DTAC Trinet Co., Ltd.	-
	True Universal Convergence Co., Ltd.	
24.	DTAC Trinet Co., Ltd.	-
	Advance Info Service Plc.	

	Licensee with his own network
	Licensee requesting network interconnection

Source: Group of Telecommunications Access

As such, the licensee with his own network for access and interconnection must disclose the contracts to the public in order to be transparent and fair to other licensee. The NBTC Office has also published the contract for access and interconnection on the NBTC Office website.

2.2 The regulation of Telecommunication Network Interconnection Charge.

2.2.1 The interconnection charge for 3G service providers.

As the licensee to use spectrum for the international mobile telecommunications (IMT) on the 2.1 GHz, or the three auction winners for the 3G network, namely, Advance Wireless Network Co., Ltd., DTAC Network Co., Ltd., and Real Future Co., Ltd., were still unable to calculate the interconnection charge for interconnection in accordance with the long-run incremental cost method to submit to the NBTC to consider as per the NTC Notification on Telecommunications Network Access and Interconnection B.E. 2549 (2006), No. 20 and No. 22, which could affect the negotiation on the contract to collect interconnection charge for interconnection between the primary licensee with other licensee, which in turn might result in the service delay of the licensee.





Therefore, the NBTC has studied the interconnection charge for the temporary interconnection for the 3G service providers in accordance with the business plans submitted to the NBTC and use the result of the study to enforce as per the NBTC order 34/2013 the interconnection charge for the temporary interconnection for licensee for the international mobile telecommunications (IMT) on the 2.1 GHz and announced in the Royal Gazette on March 12, 2013 – setting the mobile origination/termination/transit rates at THB0.45/0.45/0.06 per minute, respectively.

2.2.2 The impact of the temporary interconnection charge for the telecommunication network for 3G service providers.

The enforcement of the temporary interconnection charge for the telecommunication network, according to No. 1, with the only three 3G service providers that have won the bid for the 2.1 GHz IMT which resulted in problems in negotiating the fees with the existing operators because the existing operators used a different set of interconnection charge that were different from the temporary rates as announced in the NBTC notification 34/2013 as shown in the table. Also the studies on the interconnection charge for the interconnection that would be the median rates for the industry were still not complete, therefore, the NBTC was still unable to find the proper rates for all the operators in the industry.

In addition, the 3G operators which are using the temporary rates would still not realize the indirect impact in relations to the notification of higher rates for telecommunication for the mobile telephone services of the voice type dated 2012 which required the operator which was the dominant force over the market in the industry to reduce the mobile telephone fee to lower than THB0.99 per minute by December 31, 2012, while the termination fees to the 2G operation of some operators were as high as THB1.00 per minute as shown in Table 51.

Table 51: The Comparison between the Previous Interconnection Charge and the Temporary Interconnection Charge for 3G Service Providers

Telecommunication network service connection	Previous rate for 2G service providers (2010)	Referencing mobile phone in case of dispute (2010)	Referencing fixed line phone in case of dispute (2010)	Temporary rate for 3G service provider (2013)
Origination	1.00	0.50	0.49	0.45
Termination	1.00	0.50	0.36	0.45
Transit	0.50	0.20	0.08	0.06

Source: Group of Telecommunications Access





2.2.3 Setting the interconnection charge for interconnection that was to become the industry reference.

In setting the interconnection charge for the interconnection that was to become the industry reference, the NBTC has made a thorough study in line with international practice by collecting the information from the telecommunication operators to use in calculating the median fee that was appropriate, following the international formula, as the NBTC has stipulated in the NBTC Notification on “The standard calculation of the telecommunication network connection fees as published in the Royal Gazette on October 25, 2013”. The results of the calculation would be used to regulate the interconnection charge for interconnection that was to become the industry reference.

In 2013, there have been the development of major regulations to regulate access and interconnection as follow:

1. The NBTC order 34/2013 on the temporary interconnection charge for interconnection for the operators of the international mobile telecommunications (IMT) in the 2.1 GHz, as published in Book 130, special section 33C of the Royal Gazette on March 12, 2013.

2. The NBTC Notification on the standard of fee calculation for the interconnection, as published in Book 130, special section 144 of the Royal Gazette on March 25, 2013.

3. The NBTC Notification Telecommunications Network Access and Interconnection B.E. 2549 (2006), as published in Book 130, special section 180 of the Royal Gazette on December 12, 2013.

4. The NBTC Notification on “The mobile telephone service on virtual network 2013”, as published in Book 130, section 53C of the Royal Gazette on April 29, 2013, to support the free and fair competition, promote the entry into the market by small operators – which will increase the level of competitiveness in the mobile telephone services and open up more choices for the consumers.

5. The cancellation of the NTC Notification on the free access to the international private leased circuit (IPLC) that had its own network as being practiced at present but not according to the characteristics of the telecommunications in the land cable IPLC and/or submarine cable, which must receive approval from the NBTC which could lead to problems in practice.





Strategy 2: Strategy on the Permission to use Spectrum and the Operation of Telecommunication Services

In 2013, the NBTC has issued new licenses for telecommunication services to a total of 49 telecommunication operators, and the licenses for internet services to 10 internet service providers, for a total of 59 licensees. Also, the NBTC has issued licenses and renewed licenses for telecommunication operators who possessed their own networks, as well as license to use the spectrum for all types of telecommunication services. The details are shown in Table 52, and the issuance of licenses for telecommunication services are shown in Table 53 and the renewal of licenses for telecommunication services are shown in Table 54.

Table 52: The Number of Telecommunications Business Licenses and Internet Licenses in 2013

No.	Type of License	Number
	New License	
1	Telecommunications business license, Type 1, without network	42
2	Telecommunications business license, Type 2, without network	1
3	Telecommunications business license, Type 2, with network	2
4	Telecommunications business license, Type 3	4
1	Internet business license, Type 1	9
2	Internet business license, Type 3	1
	Extension of permits	
1	Telecommunications business license, without network	3
2	Internet business license, Type 2, with network	1

Source: Group of Telecommunications Business Licensing





Table 53: Summary of Telecommunication Business Licenses in 2013

Company	Permit No.	Date granted	Expiry date	Service
Telecommunication Licenses, Type 2, with own network				
1 Glisten Intertrade Co., Ltd.	2A/56/001	March 13, 2013	March 12, 2028	Access network
2 EliteTec Telecom Co., Ltd.	2A/56/002	July 24, 2013	July 23, 2028	Core network
Telecommunication Licenses, Type 3				
1 System Integration & Technology Co., Ltd.	3A/56/001	August 13, 2013	August 12, 2028	IDD
2 United Information Highway Co., Ltd.	3A/56/002	October 9, 2013	October 8, 2028	Core & Access network
3 Kirsch Co., Ltd.	3A/56/003	November 12, 2013	November 11, 2028	Core & Access network
4 R.T.S. 2003 Co., Ltd.	3A/56/004	November 12, 2013	November 11, 2028	Core & Access network

Source: Group of Telecommunications Business Licensing

Table 54: Summary of Telecommunication Renewal Licenses in 2013

Company	Permit No.	Date granted	Expiry date	Service
Telecommunication License, no own network				
1 Pay Network Co., Ltd.	1/50/018			International calling card
2 TCC Technology Co., Ltd.	NCT/INT/001/2552			Internet
3 United Information Highway Co., Ltd.	1/52/004			Sub-sale internet

Source: Group of Telecommunications Business Licensing

The summary of new licenses and renewed licenses for the internet services in 2013 are shown in Table 55 and Table 56.




Table 55: Summary of Internet Service Licenses in 2013

	Company	Permit No.	Date granted	Expiry date	Service
Internet licenses, Type 2, without network					
1	Power Matic Co., Ltd.	2A/56/001	May 10, 2013	May 9, 2018	Telecommuni- cation for cars for hire
Internet licenses, Type 3					
1	Sync Technology Co., Ltd.	NTC/MM/INT/ 001/2556	December 24, 2013	December 23, 2018	Core & Access network

Source: Group of Telecommunications Business Licensing

Table 56: Summary of Internet Service Renewal Licenses in 2013

	Company	Permit No.	Date granted	Expiry date	Service
Internet licenses, Type 2, with network					
1	CAT Telecom Plc.	NTC/INT/II/ 002/2551	January 24, 2013	January 23, 2018	IIG/NIX with network

Source : Group of Telecommunications Business Licensing

The summary of number of licenses issued for the telecommunication services from 2005 to 2013 is shown in Table 57, and the summary of number of licenses issued for the internet services from 2005 to 2013 is shown in Table 58.





Table 57: Number of Telecommunication Service Licenses during 2005-2013

Year granted	Telecommunication Licenses, Type 1			Telecommunication Licenses, Type 2, without network		
	No. in the year	No. end of year	Total	No. in the year	No. end of year	total
2005	2	0	2	0	0	0
2006	12	0	14	1	0	1
2007	28	0	42	2	0	3
2008	33	2	73	0	0	3
2009	30	15	88	2	0	9
2010	34	15	108	2	0	7
2011	29	8	129	3	0	10
2012	19	10	134	0	1	9
2013	42	6	170	1	0	10

Source: Group of Facilities-based Telecommunications Business Licensing 1 and Service-based
Telecommunications Business Licensing 2

Table 58: Number of Internet Service licenses during 2005-2013

Year granted	Telecommunication Licenses, Type 1			Telecommunication Licenses, Type 2, without network		
	No. in the year	No. end of year	Total	No. in the year	No. end of year	total
2005	23	0	23	0	0	0
2006	28	0	51	0	0	0
2007	27	0	78	9	0	5
2008	25	12	91	0	0	5
2009	17	22	86	2	1	6
2010	11	11	86	0	0	6
2011	12	4	94	0	2	4
2012	9	9	98	0	1	3
2013	9	2	109	0	0	3

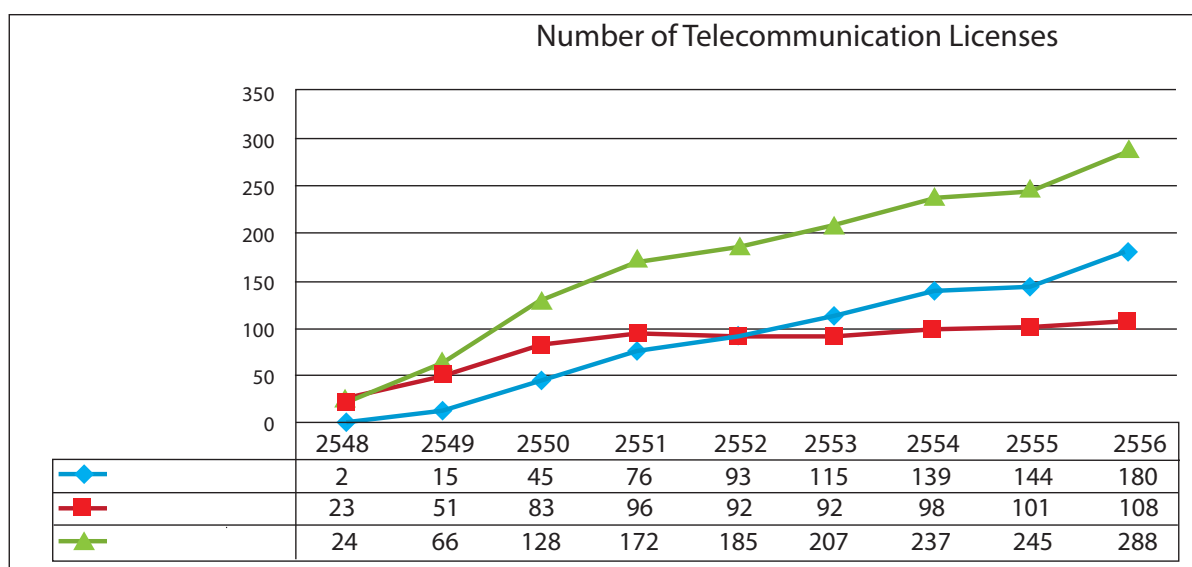
Source: Group of Facilities-based Telecommunications Business Licensing 1 and Service-based
Telecommunications Business Licensing 2





From the period 2005 to 2013, a total of 404 operators applied for telecommunication services, internet services, and on the basis for fair competition and reduced obstacles to access markets. Of those, 289 operators are still in the market, as shown in Graph 20.

Graph 20: The Number of Operators in Telecommunication Services and Internet Services Business during 2005- 2013



Source: Group of Facilities-based Telecommunications Business Licensing 1 and Service-based Telecommunications Business Licensing 2

- Note:**
1. The number of license does not include those preciously granted type 3 license (AWN and DTN)
 2. Not including three licensees to use spectrum
 3. Not including temporary license for broadcasting (Trial)

In addition, in 2013, the NTC has developed the rules governing the permission for use of spectrum and the permission for telecommunication services as follow:

1. The issuance of NBTC Notification on the automatic licensing process for the legal application for radiocommunication, in order to reduce the cost of entering the market and to promote the ability to compete of the small operators.
2. The issuance of NBTC Notification on the criteria for the application for the use of radiocommunication equipment for small stations, to support the development in telecommunication technology, telecommunication industry and peripheral industries, to be able to fulfill the needs of the people for the use of radiocommunication equipment with advanced technology in their daily more widely and more beneficial to the general public.





The Success of the 2.1 GHz Spectrum Auction.

Since the auction of the 2.1 GHz, which was Thailand's first spectrum auction, was completed on October 16, 2012, the allocation of the 2.1 GHz by auction according to Article 45 of the Agency to Allocate Frequencies Act of 2010 which clearly stipulated that the NBTC has the duty to allocate spectrum to the operators by means of auctions, therefore, the NBTC had to carry out the letters of the law.

The NTC, being a unit of NBTC, has sought the cooperation from the International Telecommunication Union (ITU) in the study of the assessment of the 2.1 GHz spectrum auction to analyze past auctions and bring the opinion as well as recommendations to be incorporated in the criteria for the next rounds of spectrum auctions in Thailand. The cooperation between the NBTC Office and the ITU was part of the plan to ensure that the 2.1 GHz spectrum auction was carried out according to international standard. For this ITU has assigned ITU Director for Asia-Pacific, Dr. Eun-Ju Kim, to observe the 2.1 GHz spectrum auction on October 16, 2012. And previously, the NBTC and NTC cooperated with ITU in observing and assessing the 2.1 GHz (3G) spectrum auction during which time, ITU Secretary Dr. Hamadoun I. Toure sent a note to NBTC indicated the ITU's willingness to provide full support for which the ITU meticulously chose experienced experts in the fields of radiocommunication and telecommunication development to study and analyze the approval process for the 2.1 GHz spectrum auction of Thailand as well as presenting the "Recommendations on Auction of Spectrum" which offered recommendations from the said study that would be useful in the granting of permission and regulating of spectrum along the international practice and suitable to the climate of the telecommunication market of Thailand. The NBTC Office had meetings with ITU experts and provided with the information that has led to the successful 2.1 GHz spectrum auction in Thailand. On February 14, 2013, NTC received the comprehensive result of the study and assessment of Thailand's 2.1 GHz spectrum auction from ITU through Dr. Eun-Ju Kim.

ITU's study and assessment of Thailand's 2.1 GHz spectrum auction could be summarized that the NBTC, through NTC, was successful in holding the 2.1 GHz spectrum auction on October 16, 2012, and the auction has fulfilled the requirements of the international standard on spectrum allocation in the aspects of principles, objectives, design and results, with the requirements of the international standard fulfilled as follows:





1. The recent allocation of the 2.1 GHz by auction of the NBTC by NTC was efficient and fair, without any questions, regulation-wise and legality-wise, while it also conformed to the international standard on spectrum auction in many countries in the world.

2. In issuing license, there were conditions and criteria in regards to the shared infrastructure and MVNO, which were considered to be important tools in the competition.

3. The license for 2.1 GHz took into main consideration the consumers' interests by stipulating under the heading of measures for the society and consumer protection that "the licensee must set prices that are fair, equitable and not taking advantage of the consumers as well as to provide high quality services as required by the Commissioners". There was also a condition that the service fee must be at least 15 percent lower than for voice and non-voice services that were available at the time of the issuance of permits.

4. The winning auction bids for spectrum were found to be in line with those of other countries, and not too little

From these results of the ITU's study and assessment, it would be useful in the granting of license and to regulate the spectrum usage that would conform to international standard and suitable for the telecommunication market conditions in Thailand. The NBTC by NTC would translate and publish these documents for academic use and to create better understanding among the public. It was also necessary to use the comments and recommendations to apply to the criteria to be used in the next rounds of spectrum auction in Thailand.



Figure 74: ITU presented Thailand 3G Auction Review Report to NBTC as on Endorsement that Thailand's 2.1 GHz Spectrum Auction that it has achieved its Goal according to International Standard





In addition, Colonel Dr. Setthapong Malisuwan, NBTC Vice Chairman and NTC Chairman was invited to speak on the “2.1 GHz Spectrum Auction: The First Spectrum Auction in Thailand” at the Annual Asia-Pacific Spectrum Management Conference 2013, to underline the success of the 2.1 GHz (3G) auction in spite of various obstacles, on August 26, 2013 at the J.W. Marriott Hotel, Bangkok.



**Figure 75: Keynote Speech by Colonel Dr. Setthapong Malisuwan,
NBTC Vice Chairman of NBTC and NTC Chairman,
on “2.1 GHz Spectrum Auction: The First Spectrum Auction in Thailand”**

The preparation for the allocation of spectrum at the end of the concession period and to prepare for the auction of the 1800 MHz.

The preparation to set the conditions for the license use the 1800 MHz that is due to be returned by True Move Co., Ltd. and Digiphone Co., Ltd., a company affiliated with Advance Info Service Plc. (AIS), whose concession contracts expired on September 2013, so as to prepare for a new auction and the issuance of new license before the consumer protection timeframe lapses on September 1, 2014. And to prepare the 1800 MHz after the mobile phone concession





periods of TOT Telecommunications Plc (CAT) and Total Access Communications Plc (DTAC) end in 2018. This also includes the preparation to set the criteria for the license for 900 MHz at the end of the concession contract with TOT Plc. (TOT) and Advance Info Service Plc. Which were due to expire on September 30, 2015. This spectrum would be brought up for advance auction through a collaboration with ITU to study the criteria for license in the 1800 MHz and other spectrum bands whose concession periods would soon expire. Currently, NBTC has completed the review report which would summarize the study review to be submitted to the NTC for consideration and would in due course be disseminated to the public through the media.

The NTC has made the preparation since 2012 to prepare for the granting of permission for use of the telecommunication spectrum 1800 MHz for the best interest of the country and the people by setting up a sub-committee to prepare for the granting of permission for use of the telecommunication spectrum 1800 MHz which included NTC and the experts. Under the work process of the sub-committee, a working group was appointed to study the permission criteria for the 1800 MHz and other spectrum bands that have the concession contracts for mobile telephone services that are soon to expire so that the process would conform to international norms and would be suitable to the telecommunication market conditions in Thailand. The timeframe of 14 months have been given to the work process on the permission for the 1800 MHz which would be similar to the timeframe given to the process to prepare the auction for the 2.1 GHz. An agreement with the ITU has been signed on the voluntary contribution agreement and its annex 1 project document "Study on spectrum licensing of the 1800 MHz band and related spectrum under the concession". In the study, a meeting was held with ITU to consider the policy objectives, the strategic options and the work plan. In depth interviews were carried out to gather information as well as arranging meetings with the existing operators and those interested in tendering bids at the auction, to have an in-depth analysis on the supply and demand of the spectrum within the industry, in the form of focus groups concentrating on the permission process for the 1800 MHz and spectrum band which were coming to the end of the concession period (consisting of operators, representative from government agencies and academics). Other focus groups were also held on the permission process for the 1800 MHz and the frequencies which were coming to the end of the concession period (consisting of consumers representatives, and representatives of the disabled) – in order to gather as much information that was as detailed as possible, before the permission process for the 1800 MHz and 900 MHz and draft the NBTC announcement on the criteria and method of permission for the frequencies for telecommunication businesses on 1800 MHz for other processes related to the permission process for the 1800 MHz by way of auction as stipulated in the law.





**Figure 76: Focus groups on the Permission Process for the Use of 1800 MHz
and on Phasing out of the Concession Contract.**

Other achievements related to the permission to use spectrum and permission for operation.

1. The granting of licenses for new telecommunication businesses resulting the launch of new telecommunication services, such as cloud computing, WiFi service on board passenger flights, GPS tracking and MVNO service.
2. The NTC participated in the “3rd International Conference on Computer Communication and Management (ICCCM) 2013” in Copenhagen, Denmark, at which there was a speaking engagement on “Refarming of Broadband Wireless Access” which was also published in the academic publication International Journal of Computer and Communication Engineering (IJCCE), resulting in the NBTC being promoted on the international arena.
3. The dissertation of Colonel Dr. Settapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC) under the title “Analysis of Mobile Spectrum Management in Thailand to move towards a Knowledge-based Economy: A Regulatory Review” was published in the international research magazine “Journal of Advanced Management Science (JOAMS). And the work on “An Analysis of Telecommunication Spectrum Clearing Prices in Thailand and Abroad” was chosen to be published in the international research magazine “International Journal of Innovation, Management and Technology”, and the work on “Analysis of 2.1 GHz Spectrum Auction in Thailand” was chosen to be published in the international research magazine “Journal of Economics, Business and





Management”. All these works published in renowned academic publications reflected the success of Thailand’s 2.1 GHz spectrum auction which was internationally recognized as being the case study for world class spectrum auction success story.



Analysis of Mobile Spectrum Management in Thailand to Move towards a Knowledge Based Economy: A Regulatory Review

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Abstract—The objective of this study is to analyze and determine the challenges to transition from 3G to 4G while incorporating the lessons learned from the 3G auction. This paper provides a brief picture of the Thai telecommunications industry in terms of the extent of liberalization it has undergone. Qualitative case study method is adopted where a variety of credible secondary sources are applied to this research focusing on evidence-based approach. The qualitative research provides an overview of Thai mobile market and a brief account of its development. This paper further discusses the current changes brought about by the 3.5GHz 4G auction on the broadband, multimedia, mobile, TV & followed by discussion on spectrum management challenges in the current Thai regulatory regime, its impact on the pace and ease of new key regulatory issues are discussed and analyzed by taking into account both national and global viewpoints.

Index Terms—Spectrum Management, Communications Regimes, Licensing Regimes, Telecommunications Regulation

1. INTRODUCTION

Mobile communication has had a bigger impact on Thailand in a shorter period of time than any other innovation in the history of mankind. It not only empowers individuals but has had important enabling effects on economic and technological growth of new technological devices, both of new lines of business and increase in productivity afforded by new innovative solutions in new digital economy.

However, unlike developed countries where mobile communication has added value to legacy communication systems and has supplemented and expanded existing information flows, developing countries are increasingly well situated to exploit the benefits of mobile communications due to the fact that levels of access are high and rising and thus the mobile market has become a significant economic force in developing countries [1].

Concomitant to this, the 3G auction, which was held in 2008, was a significant milestone in the history of mobile communication in Thailand.

Thailand is not an exception to such global trends. The number of 3G mobile users was expected to grow from 3.77 million users in 2009 to 5.77 million users in 2011, representing growth from 9.4 to 11.9% of the total market value of the software industry. The growth rate in this sector is expected to be more than 30% per annum [2]. The expansion of network capacity to accommodate exponential growth of mobile and internet traffic will call for an upgrade of 3G networks to Long Term Evolution (LTE). The upgraded 4G networks which are already deployed in many countries. The roadmap to the early deployment of 4G networks may be difficult for Thailand, and particularly the 3.5GHz, license requirements have to be taken into account, not only technical but also regulatory issues.

The objective of this research is to determine the challenges on transition from 3G to 4G networks while incorporating the lessons learned from the 3G auction. This research is conducted in Thailand in October 2012. Further this research regulatory challenges NBTC has to undergo for Thailand's transition from 3G to 4G networks. This paper provides an analysis of the extent that Thailand can improve its regulatory framework in order to meet the challenges in implementing 4G networks, in terms of potential spectrum to be assigned for 4G deployment.

2. LITERATURE REVIEW



Analysis of 2.1 GHz Spectrum Auction in Thailand

Settaping Malisuwan, Nontarat Kanyachanacharoen, Nontarat Mahin, and Nontarat Mahin

Abstract—Effective spectrum allocation is a vital mechanism to ensure growth and success in telecommunications industry. In order to ensure that spectrum is allocated to the most efficient users, the government has to ensure that the spectrum is allocated to the most efficient users. This paper provides a brief picture of the Thai telecommunications industry in terms of the extent of liberalization it has undergone. Qualitative case study method is adopted where a variety of credible secondary sources are applied to this research focusing on evidence-based approach. The qualitative research provides an overview of Thai mobile market and a brief account of its development. This paper further discusses the current changes brought about by the 2.1 GHz auction on the broadband, multimedia, mobile, TV & followed by discussion on spectrum management challenges in the current Thai regulatory regime, its impact on the pace and ease of new key regulatory issues are discussed and analyzed by taking into account both national and global viewpoints.

Index Terms—Spectrum Management, Communications Regimes, Licensing Regimes, Telecommunications Regulation

A recent of mobile has shown that Thailand's telecommunications industry is a vibrant sector. The industry is a significant contributor to economic growth, the second largest. Early in 2009, the industry produced by increasing the efficiency of service provision. The industry is a significant contributor to economic growth, the second largest. Early in 2009, the industry produced by increasing the efficiency of service provision. The industry is a significant contributor to economic growth, the second largest. Early in 2009, the industry produced by increasing the efficiency of service provision.

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Figure 77: The Academic Dissertation of Colonel Dr. Settaping Malisuwan, Vice Chairman of NBTC (Chairman of NTC) on “Analysis of Mobile Spectrum Management in Thailand to move towards a Knowledge-based Economy: A Regulatory Review”





In addition, Colonel Dr. Settapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC), also has several research works on telecommunications which targets the telecommunication and communication technologies, the utilization of telecommunication resources and the effective and worthwhile management plan for spectrum resources that have been published in various international research publications, such as:

- CAD model of Cole Representation for Analyzing Performance of Microstrip Moisture Sensing Applications, published in International Journal of Communication Engineering
- Design of Microstrip for WPAN Applications by Applying Modified Smith-Chart Representation, published in International Journal of Modeling and Optimization
- Design and Performance Model of Probe-fed Rectangular Patch Antenna for LTE 2300 MHz Smart Phone and Portable Computer Applications, published in International Journal of Computer and Communication Engineering (IJCCE)
- Randomized Replication based on Multi-level of Security for Opportunistic Network, published in International Journal of Electronics and Electrical Engineering (IJEEE), Vol. 1, No. 2, 2013
- Regulations on implementation of Small Cell in Thailand, published in International Journal of e-Education, e-Business, e-Management and E-learning (IJEEEE), Vol. 3, No.2, April 2013, pp. 116-120, 2013
- Estimation of Commercial Value of Spectrum: The Approach Adopted in Thailand, published in Journal of Economics, Business and Management (JEBM), Vol. 2, No. 2, May 2014, pp. 87-92, 2013
- Design of a Dual Band Microstrip Antenna by Integrating MOM-based Simulation and Frequency-dependent Smith Chart Model, published in International Journal of Modeling and Optimization (IJMO), Vol. 3, No. 6, pp. 479-483, 2013
- The Probability of Bit Error Due to the Co-existence Interference of PCS1900 and UMTS, published in International Journal of Modeling and Optimization (IJMO), Vol. 3, No. 6, pp. 484-489, 2013
- The Integration of RF Front-end Device with Embedded Antenna, published in International Journal of Electronics and Electrical Engineering (IJEEE), Vol. 1, No. 2, pp. 90-93, June 2013
- Design of an Antenna System in Wireless Communication Applications (2.45 GHz ISM Band) by Applying FDSC Model, published in International Journal of Computer Theory and Engineering, Vol. 6, No. 4, pp. 297-301, 2014





Strategy 3: Strategy on the Efficient Utilization of Telecommunication Resources

1. The management of telecommunication resources

In 2013, the NBTC has revised and developed the plan and criteria in the management and regulation on telecommunication resources so as to improve efficiency, transparency, fairness and the consideration to allocate numbers for various types of telecommunication, so as to be fair to the operators and promote the efficient use of telecommunication numbers which are considered the country's resources to the utmost benefit to the people, according to the NBTC Notification on "Criteria for allocation and management of telecommunication numbers 2008". In 2012, the NBTC Office was tasked with the allocation of numbers to the operators as shown in Table 59 and Table 60, and the accumulated allocation of fixed line and mobile phone numbers in 2013 as shown in Graph 21, as well as the allocation of numbers to 3G operators in 2013 as shown in Graph 22.

Table 59: Summary of Telecommunication Numbering Assignment during 2012-2013

	Allocated number in 2012	Allocated number in 2013
Special numbers allocated in 2012	21	11,036
Ordinary numbers allocated in 2012		
Fixed line	144,000	47,000
Mobile	8,090,000	54,970,000
Technical number	307	57

Source: Group of Numbering Management





Table 60: Summary of Telecommunication Numbering Assignment divided by Service Type during 2012-2013

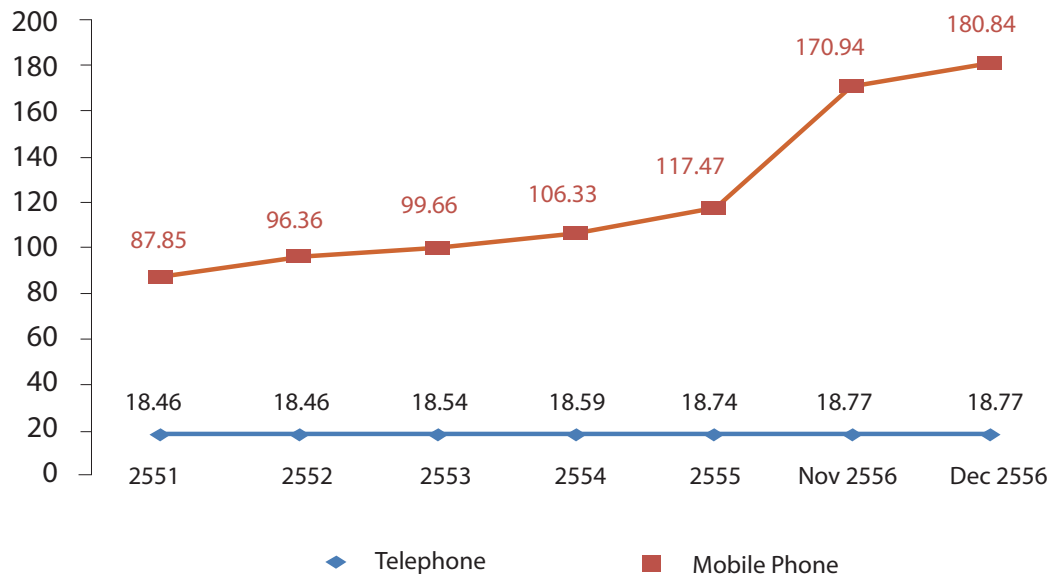
No.	Type of service	Number of allocations (numbers)							
		2006	2007	2008	2009	2010	2011	2012	2013
1	3-digit special telecom number	1	3	1	6	6	-	-	2
2	4-digit special telecom number	2	52	32	27	332	41	21	34
3	Special number with 1800 prefix	-	-	-	-	-	-	-	11,000
4	Mobile numbers	61,110	20,710,000	8,650,000	9,580,000	3,300,000	9,720,000	8,090,000	55,970,000
5	Fixed line number	106,000	102,000	25,000	3,000	84,000	58,000	144,000	47,000
6	VoIP number	-	-	36,000	10,000	17,000	2,000	2,000	-
7	Technical number	-	-	16	40	62	-	307	57
Total		167,113	20,812,055	8,711,049	9,593,073	3,401,400	9,780,400	8,236,328	55,028,093

Source: Group of Numbering Management



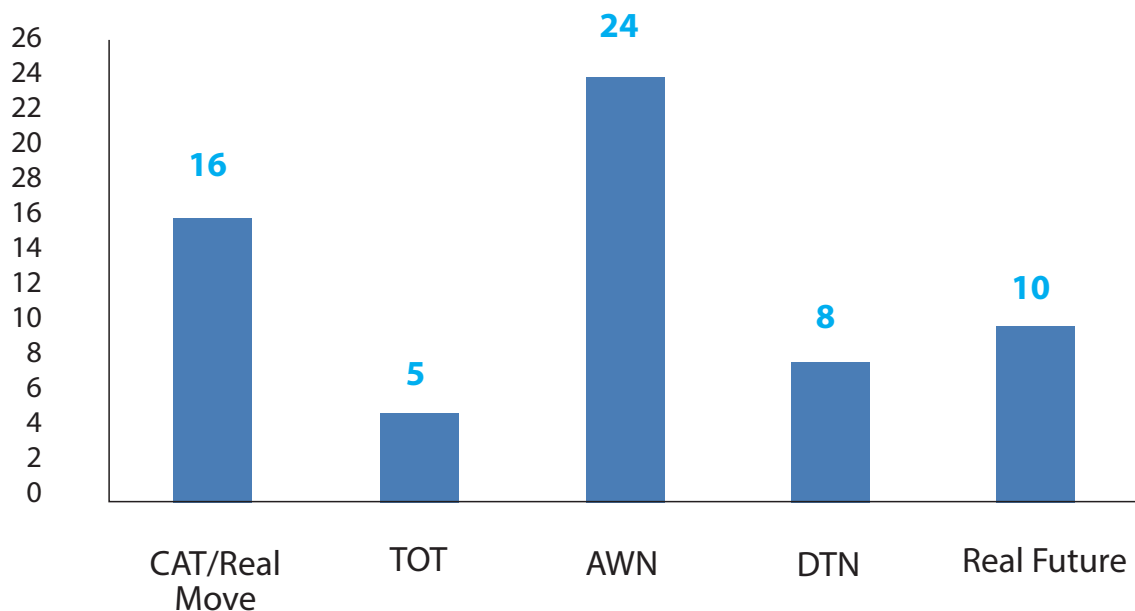


Graph 21: The Number of Numbering Assignment on Fixed-Line and Mobile Phone Services in 2013



Source: Group of Numbering Management

Graph 22: Numbering Assignment to 3G Operators in 2013



Source: Group of Numbering Management

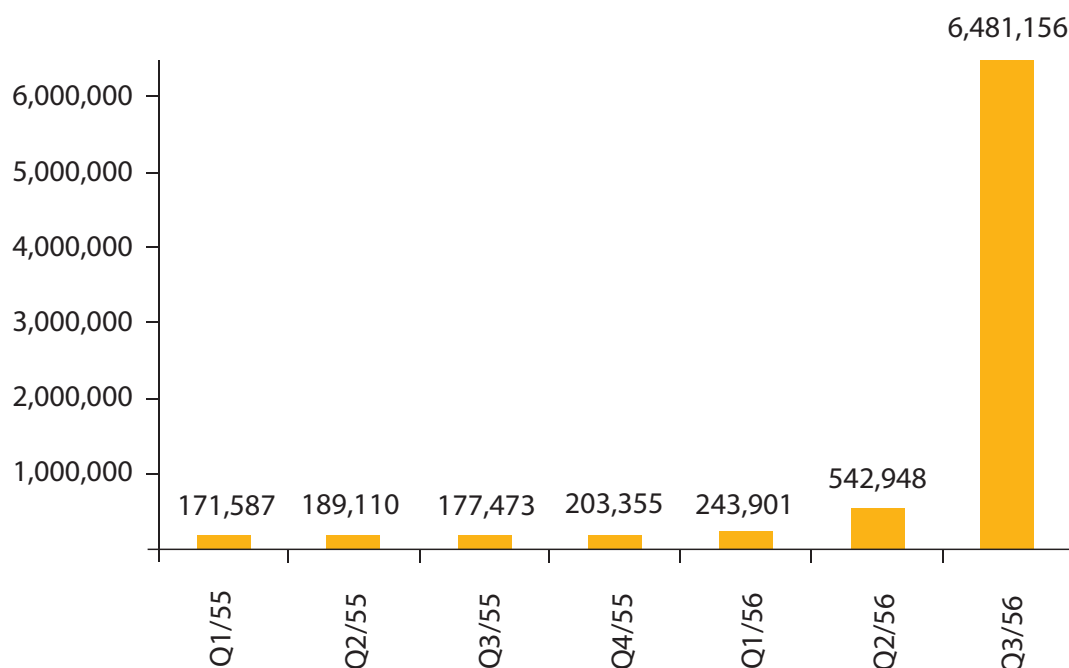




Mobile number portability

For the accumulated transfer of the numbers from one service provider to the other in 2013, there were altogether 6,486,156 numbers, as shown in Graph 23.

Graph 23: Mobile Number Portability in 2013



Source: Group of Numbering Management

2. Basic infrastructure management in telecommunication

2.1 The tracking and regulating of universal mobile telecommunication operations on 2.1 GHz in the installation of the network to ensure the utmost benefit to the customers.

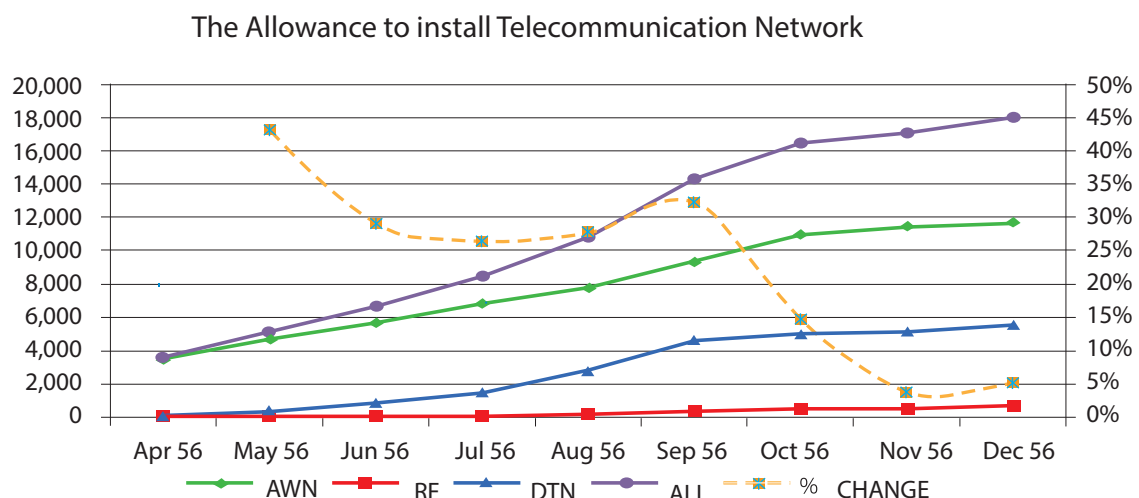
As the NBTC has issued the license for the use of IMT spectrum on the 2.1 GHz spectrum and the type-3 telecommunication business license to Advance Wireless Network Co., Ltd. (AWN), Real Future Co., Ltd. (RF) and DTAC Network Co., Ltd., which later changed its name to DTAC Trinet Co., Ltd. (DTN) to operate universal mobile telecommunication operations on the 2.1 GHz on December 7, 2012, in order for be able to consider the progress and trend of the mobile telephone industry and broadband services in Thailand, the NBTC Office appointed a working group to track and regulate the universal mobile telecommunication operations on 2.1 GHz to follow up and regulate the operators as above so they could strictly adhere to the conditions covering the permits carefully, fully and efficiently, as well as to collect and analyze the information on the universal mobile telecommunication on 2.1 GHz.





The working group to track and regulate the universal mobile telecommunication operations on 2.1 GHz has observed the installation of the network to operate the 3G telecommunication and found that in 2013, the NBTC has already issued the license to set up telecommunication stations for the universal mobile telecommunication operations on 2.1 GHz to three operators totaling 17,985 stations (information as of December 31, 2013), consisting of AWN 11,721 stations, DTN 5,578 stations, and RF 686 stations. According to the information on hand, the operators had the tendency to continuously install more stations as from the time the permits were granted. AWN was granted the highest number of license, while RF has been granted the least number at only 686 stations. When comparing the growth ratio of the station installation between November to December 2013, it was found that RF showed the highest growth at 37 percent (188 stations more), as shown in Graph 24 which shows the status of the license to set up telecommunication network in 2013 (information as of December 31, 2013).

Graph 24: The Status of the License for the Installation of the Telecommunication network in 2013



Source: The Work Group on the Tracking and Regulating the Universal Mobile Telecommunication Businesses on 2.1 GHz





The installation of the universal mobile telephone service on 2.1 GHz (compared to target percentage) when comparing the ratio of installed telecommunication networks to the number of granted licenses and the expansion plans of each of the service providers, as shown in Table 61.

**Table 61: The Installation of the Universal Mobile Telephone Network on 2.1 GHz
(Comparing to Target Percentage)**

	AWN	RF	DTN	Total
Network installation plan 2013	7,126	690	3,125	10,941
Permission to install telecom network	11,721	686	5,578	17,985
Installation of telecom network	8,598	686	5,423	14,707
Proportion of telecom permits granted and 2013 installation plan	164%	99%	178%	164%
Proportion of installation and permits granted	73%	100%	97%	82%
Proportion of installation and 2013 installation plan	121%	99%	174%	134%

Note: Real Future Co., Ltd. (RF) Revised the Plan to Install 4,396 Stations in 2013, to only 690 Stations.

Source: The Work Group on the Tracking and Regulating the Universal Mobile Telecommunication Businesses on 2.1 GHz

The expansion of the mobile telephone service on the 2.1 GHz would help promote the broadband services through the high-speed wireless communication network to spread out and cover the whole country which would allow all Thai people to have access to broadband and the access to information and knowledge which would lead to a better quality of life through the development of education, healthcare, social and agriculture.

2.2 The promotion of the joint usage of the basic network infrastructure and the right of way.

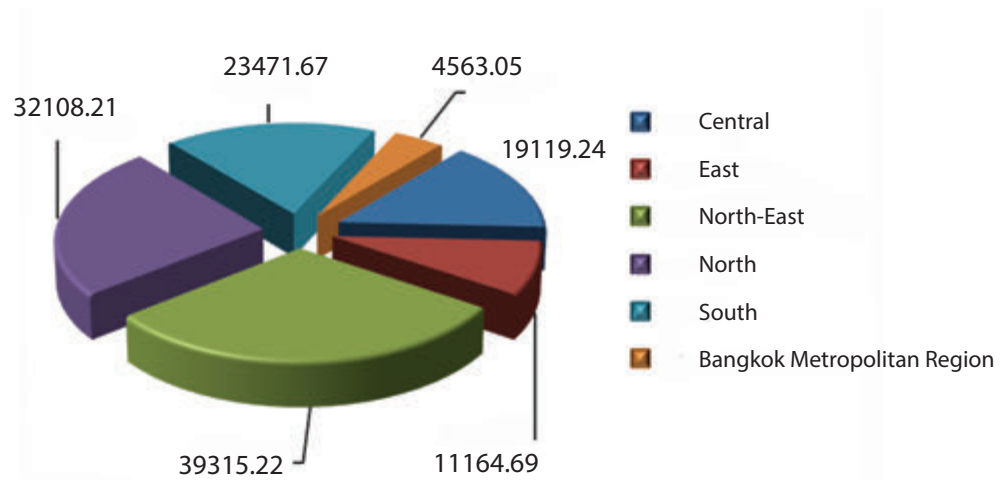
In 2013, regulation was put in place for the rights to install posts, cables, pipelines or the installation of any equipment in connection with telecommunication, through the consideration of requests from permit holders for the rights to install posts, cables, pipelines or the installation of any equipment in connection with telecommunication to abide by the NBTC Notification on the criteria and method involving the installation of posts, cables, pipelines and other telecommunication equipment. A total of 13 companies tendered 2,531 requests: For 21,878 routes (130,742.08 kilometers) of optical fiber; 687 junctions (1,085.44 kilometers) of copper cable (COP); and, 1,577 routes (10,270.15 kilometers) of coaxial cable (COA). Altogether, the network with





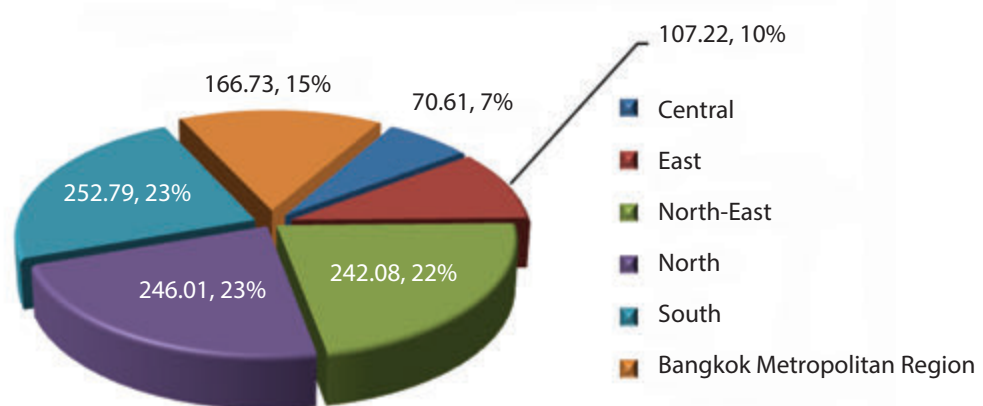
the total length of 142,097.66 kilometers were laid, divided into different regions as shown in Graphs 25, 26 and 27.

Graph 25: OFC Network by Region in 2013



Source: Group of Telecommunications Policy and Resources Management NBTC Office

Graph 26: Copper Network throughout the Country in 2013

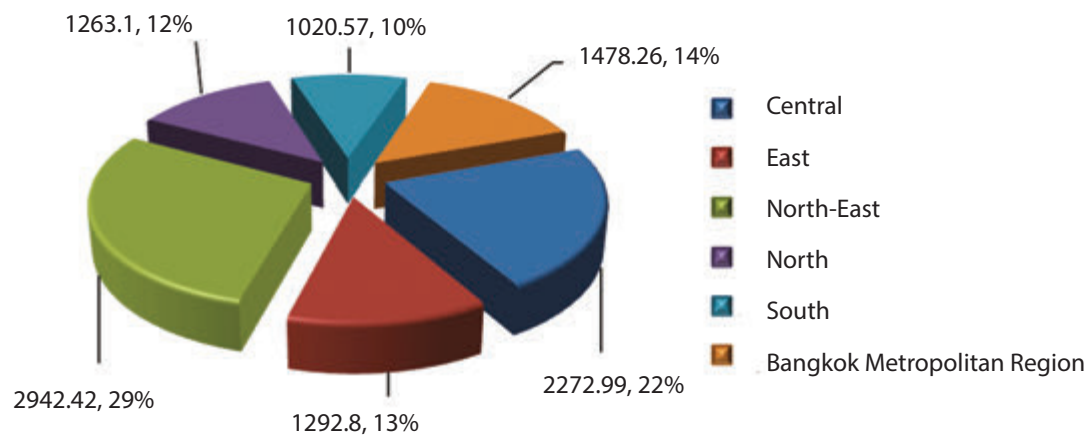


Source: Group of Telecommunications Policy and Resources Management





Graph 27: Coaxial Network throughout the Country in 2013



Source: Group of Telecommunications Policy and Resources Management

3. The setting of toll-free emergency 191 messaging system through SMS on mobile network with the cooperation of the Royal Thai Police and the NBTC to create the emergency notification project through the SMS with the 191 emergency number without any charge.



**Figure 78: The Toll-Free Emergency 191 Messaging System through SMS
on Mobile Network**





The purpose of the emergency notification project through the SMS with the 191 emergency number was to open up another communication channel for the convenience of the people which coincided with today's lifestyle. People who are faced with serious incidents, accidents or have found clues or leads to crimes may report through SMS by typing out a short, concise message and sent it through SMS to number 191 without incurring any charges. The officer at the Royal Thai Police who received the message would then analyze the message and dispatch a police unit to the scene of the SMS report. This SMS 191 project has received the cooperation from the five service providers: AIS, DTAC, True, TOT and CAT, and would help provide a sense of security for the Thai people. The NBTC has allocated a fund to support this project to prepare for the readiness of this system of public service.

4. The project to tidy up the communication cables (pilot project) – NBTC has assigned the NBTC Office to proceed with the (pilot) project to tidy up the communication cables with satisfactory result, creating orderliness, beauty and safety for pedestrians and tourists, as follow:

1) Cooperated with telecommunication operators, Pattaya City and the Provincial Electricity Authority (PEA) to tidy up cables along Thepprasit Raod from Soi 8 to Highway 3 (Sukhumvit Road) – a distance of one kilometer.

2) Cooperated with the PEA and other parties involved to tidy up the telecommunication cables laid on the PEA electricity poles in Ayutthaya Province along major routes and other areas for improved cleanliness, beauty and safety for pedestrians and tourists.



Figure 79: Pilot Project with PEA on Telecommunication Cables





3) Cooperated with eight telecommunication operators and divided lengths between electricity poles on which some unused telecommunication cables were still strung for the operators to work on. Markers were applied to the cable bundles and dangerous spots as identified by NBTC were made safe. Some of these spots were 1) At the entrance to the lane where the cables were strung too low; 2) In front of Soi Kantabutr; 3) Around the transformer near Monririn Building, and 4) In front of the NBTC Office.

5. The promotion of the usage of telecommunication resources and radio communication to prepare in case of emergency and natural disaster, or in cases in which the people's safety may be compromised, as well as national security, economic stability, public interest and to set the criteria for the use of telecommunication resources in cases of emergency or natural disasters, as well as setting the measures to prepare for such emergency or natural disaster by drafting the NBTC Notification on the criteria for granting of permits and the regulation of amateur radio operation to support and promote the development of amateur radio and make use of the amateur radio operation more effectively. The draft of this notification has passed public hearing and in the process of being prepared for submission to the NTC and the NBTC for approval. The Notification would likely be released in 2014.



Figure 80: Public Hearing on NBTC Notification (drafts) on Licensing and Regulating Amateur Radio Services





In addition to the allocation of numbers for various types of telecommunications, to ensure fairness and to use the resources wisely, NBTC has carried out important tasks in the management of numbers for telecommunication and telecommunication resources in order to revise, correct, develop and set the criteria in the regulation of the use of numbers and the issuance of NBTC announcement involving the management of numbers for telecommunications and promote the efficient use of telecommunication resources, namely:

1. The issuance of NBTC Notification on “The use and the connection to the telecommunication network of 2013”, which has resulted in the new era of the rules in regards to the use and the connection to the telecommunication network that could catch up to the most current technology.

2. The NBTC Notification on “The use of the basic telecommunication infrastructure jointly with mobile telephone network of 2013”, or what was called the “infrastructure sharing Notification” which promotes the licensee to offer to share the basic infrastructure with other operators to promote fair competition and to adhere to Article 47 of the Constitution.

3. The issuance of NBTC Notification on “The allocation of frequencies for radiocommunication for national security of 2013”, as an amendment to the NTC Notification on “The allocation of spectrum for radiocommunication for national security to adhere to The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010)”, the Spectrum Management Master Plan (2012), the National timetable for the Spectrum Allocation (2012), and to allow for the use of spectrum that is national resources for the good of the public and of the highest efficiency according the changing technology and up-to-date.

4. Prepare the draft roadmap for telecommunications spectrum management in Thailand 2014-2033 to pave the way for the efficient management of spectrum for telecommunication businesses and to create the most value, by pointing out the clear policy and the overall picture of the spectrum to be utilized in the telecommunication services. Therefore, the service providers and investors would be able to make a long-term plan which will be beneficial to the telecommunication industry overall. This draft was still being presented to the NTC and the NBTC, respectively to seek approval and later for submission to public hearing.

5. To prepare the draft NBTC Notification on “The telecommunication numbering plan of ...”, and the draft NBTC Notification on “The criteria and the method for the permit to use the numbers in telecommunication of ...”, and to adhere to Article 28 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010)”. The NBTC Office has circulated those draft notification to get opinions and suggestions from stakeholders and the general public through the NBTC web site as from November 1, 2013, and has set the public hearing in regards to these drafts on December 2, 2013, at the Vibhavadi Ballroom, Centara Grand at Central Ladprao Hotel, Bangkok.





Strategy 4: Strategy on Universal Service Obligation

The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010) has mandated the use of the money from the Research and Development of Broadcasting, Television and Telecommunications Fund for Public Benefit in the plan to spread out the basic telecommunication services under the universal service obligation (USO) according to the NBTC Notification on the criteria and method on the collection of income for use to ensure thorough basic telecommunication services under USO which has set the service fee for USO from the service providers at not more than 3.75 percent of the revenue of the telecommunication services.

In 2013, the NBTC has proceeded with the basic telecommunications services under USO by applying the strategy of the operation plan to spread out the basic telecommunication services under USO of 2012-2016, so as to arrive at the actual implementation with the goal to achieve the wide telecommunications coverage. The details of the operation plan are as follow:

(1) Distinguish the framework of the basic telecommunication services into two dimensions – the location dimension, and the social dimension. As for the guideline for the basic telecommunications coverage, on the location dimension, the NBTC believed that the bidding tools should be used to select the telecommunication service providers so as to arrive at the set goal. This is because such a tool could be used to manage the budget more effectively, and in line with the aim to spread out the basic telecommunication services in an international manner.

(2) Setting the framework guideline in distinguishing the target location for the USO zoning concept, with the location and environment for the coverage of telecommunication services divided into three types:

- Commercially served zone (Zone A)
- Underserved zone (Zone B)
- Unserved zone (Zone C)

(3) Under the plan to ensure basic telecommunication coverage within five years in the location dimension, the allocated budget including for other costs totaled THB19,995.50 million (in the case that the social dimension and others were also covered, the budget would increase to THB20,458.30 million). This is divided into THB16,757.50 million for high-speed internet services and THB1,888.00 million for telephone services.





(4) The budget needed to achieve the basic telecommunication coverage under USO 2012-2016 would be collected from the telecommunication permit holders of all types, in accordance with the NBTC announcement on the criteria and method on the collection of income for use to ensure thorough basic telecommunication services under USO, on May 30, 2012, which has set the service fee for USO from the service providers at not more than 3.75 percent of the revenue of the telecommunication services, with the targets as shown in Table 62.

Table 62: The Objective of Basic Telecommunication Service Coverage under USO Regime

The targets for the basic telecommunication service coverage			
No less than 95 percent of the country's population have access to personal phones	No less than 80 percent of the country's population have access to high speed internet (not less than 2Mbps)	Set up the community internet centers and internet centers in schools, hospitals, and village healthcare centers, with the internet speed of no less than 2Mbps in areas with no commercial potential or no services	Set up high speed internet services for households in commercially viable areas, but still lacking the services – no less than 50,000 households

Source: Group of Universal Service

In 2013, the NBTC has proceeded with the promotion of the basic telecommunication service coverage under USO, by creating the standard to promote services in areas needing basic telecommunication coverage, promotion of the target groups to access the telecommunication services, the telecommunication services for the society, education, healthcare and national security, as well as the services in times of emergency and natural disaster, and to reduce the gap in the access to broadband services, by supporting the broadband services in remote areas. It also stipulated the measure to encourage the provision for broadband services in areas that are not commercially viable, and to support the disabled and the disenfranchised to have access to broadband, by driving the basic telecommunication service coverage under USO 2012-2016 to reality, according to the following:

1. The issuance of NBTC Notification on the basic telecommunication service coverage under USO on October 3, 2013, to set out the criteria for the basic telecommunication service coverage under USO, to conform to the basic telecommunication service coverage under USO plan





of 2012-2016, with the major detail being the project to implement the basic telecommunication service coverage under USO as in follow:

- (1) Installation of mobile phone service or public phone service for villages
- (2) Installation of fiber optic cables for broadband services in the tambon (sub-district)
- (3) Installation of high speed internet for agencies and targeted social groups
- (4) Installation of internet for agencies and targeted social groups

The details of the project included the targeted areas, the scope of work, the ceiling price, the installation time, standard and minimum quality of the basic telecommunication service coverage under USO, to align with the NBTC Office direction and allowing the NBTC Office to select the service providers for the basic telecommunication service coverage under USO in accordance with the regulation and the Notification of NBTC. An auction will be used as a tool to choose the service provider for the basic telecommunication service coverage under USO, in order the reach the intended target as the tool will allow for a more efficient management of the budget and to align with the criteria on providing thorough basic telecommunication service which are of international standard.

2. Proceed with the “project to provide wide coverage of telephone and internet services through auction in two pilot provinces of Nongkhai and Phitsanulok” under USO for 2012-2013” within the budget of THB480.91 million, as shown in Table 63.

Table 63: The Budget for the Project to Provide Wide Coverage of Telephone and Internet Services through Auction in Two Pilot Provinces of Nongkhai and Phitsanulok under USO during 2012-2013

Project	2012 Budget	2013 Budget
1. Project to provide public phone services through auction in the two pilot provinces	15.96	35.49
2. Project the provide high speed internet services in the two pilot provinces	200.43	445.42
Total budget	216.39	480.91

Source: Group of Universal Service

The result of the project to provide wide coverage of telephone and internet services through auction in two pilot provinces of Nongkhai and Phitsanulok as announced on December 16, 2013 and the bidding document sold within the first quarter of 2014 with three companies buying the bidding document – TOT Plc., Super Broadband Network Co., Ltd. and Loxley Plc.





After the bid winner would be chosen to provide the basic telecommunication services under USO through the project to provide wide coverage of telephone and internet services through auction in two pilot provinces of Nongkhai and Phitsanulok, the NBTC would open more auctions in 73 provinces throughout the country within 2014-2016. The NTC was in the process of checking the information and the details of the list of locations involved through the geographic information system (GIS) system, and study the way to select the USO service provider and will use the information from the pilot projects to choose the USO service providers in the other 73 provinces, so that the basic telecommunication service coverage under USO will be completed within five years when the gap in the access to telecommunication and information will be significantly reduced.

The follow-up of the process to provide basic telecommunication service coverage under USO – Phase 2

The follow-up on the proceedings according to the NBTC Notification on the process to provide basic telecommunication service coverage under USO of 2010, came into force on January 8, 2010, as shown in Table 64.

Table 64: Duties and Workload of each Service Provider

Tasks	No. of tasks						Total
	CAT	TOT	3BB	AIN	SBN	JASTEL	
1. Phase 1: USO phone maintenance (number)	8,140	21,605	-	-	-	-	29,745
2. Installation of public phones in communities (village)	1,558	324	203	72	69	11	2,617
3. Internet services in schools (place)	252	206	28	24	6	4	520
4. Internet service center for communities and for social events	169	143	42	39	15	9	417

Source: Group of Universal Service





The result of the follow-up in 2013 as above has found that the service providers were able to install public telephones in the villages, set up internet service centers in schools, set up community internet centers and social internet centers, and were able to maintain the public telephones and fixed line telephone that have been installed under the project to provide basic telecommunication service coverage under USO – Phase 1 (2005-2009) totaling 29,745 numbers which has been carried out on time and delivered at the appointed time, resulting in the successful increased areas of basic telecommunication service coverage and public service, achieving the goals set out to provide basic telecommunication services under USO within 2010.

In addition, after the NBTC has proceed to assign work on the provision of basic telecommunication coverage under USO – Phase 2, in accordance with the NTC Notification on criteria, method and conditions for the basic telecommunication services under USO of 2009 (Book 2) to six providers of telecommunication services, with the summary of the USO tasks Phase 2 as follow:

- (1) Install telephone lines extensively at the community level
- (2) Install telephones and internet services at public institutions such as schools, health stations, religious places, and non-profit organizations
- (3) Install internet services at the community level
- (4) Procure and develop equipment and technology and telecommunication services for the disabled, children, the elderly and the disenfranchised.

For tasks (3) and (4) in installing and providing internet services for the community and the internet services for the disabled, children, the elderly and the disenfranchised, it was found that the six service providers have surveyed 40 locations to set up the community internet centers and the service providers have already submitted the list to the NBTC for approval in March, 2013, so as to achieve success in the USO operations in Phase 2 (2010).

The number of locations on which to set up the internet centers by the telecommunication service providers for 2011-2013 is as shown in Table 65.





**Table 65: Number of Telecenters by the Telecommunication Service
Provider during 2011-2013**

No.	Service providers tasked with the installation of internet centers	No. of Locations			
		2011	2012	2013	Total
		School	Community	Social	number
1	TOT Plc.	206	118	25	349
2	CAT Telecom Plc.	252	169	-	421
3	Triple T Broadband Plc.	28	34	8	70
4	Jastel Network Co., Ltd.	4	8	1	13
5	AIN Global Com Co., Ltd.	24	36	3	63
6	Super Broadband Network Co., Ltd.	6	12	3	21
Total		520	377	40	937

Source: Group of Universal Service

In addition, the NBTC has assigned a policy for the NBTC Office to carry out the task and project to improve the quality of life of people in the rural areas, in terms of education, healthcare, social and national security, the details of the tasks and projects can be found in Part 2.





Strategy 5: The Strategy on Consumer Protection in Telecommunications Services

Telecommunications Commission (TB) establishes that 2013 is the year of “Consumer Protection in Telecommunications Services”. For this year of 2013, the Commissioners has performed the duty of monitoring telecommunications services with major performances which can be seen and are able to solve problems that have been in long existence for consumers successfully and they can be summarized as follows:

Consumer Protection in Telecommunications Services

1. Statistics on Complaints in Telecommunications Services

In 2013, NBTC received 2,437 cases related to the services of various telecommunications services for consideration. The cases can be divided into: 1,278 cases that actions have been taken, which is 52.44 percent out of the total cases and there are 1,159 cases that are still under consideration, which is 47.56 percent. The cases can be categorized according to the kind of services that received the most complaints in sequential orders and the proportion of complaints are based on the efficiency and effectiveness in the implementation of receiving complaints in 2013, as is shown in Table 66 below:

Table 66: Complaints Handling Efficiency in 2013

Services	No. of Complaints	Status of Complaint Cases				
		%	Case Closed	%	In Process	%
Mobile phone	1,987	81.53	997	50.18	990	49.82
Internet	334	13.71	231	69.16	103	30.84
Fixed-line phone	75	3.08	45	60.00	30	40.00
Radiocommunications	37	1.52	2	5.41	35	94.59
Other services, such as PCT, VoIP and Net Call	4	0.16	3	75.00	1	25.00
Total	2,437	100	1,278	52.44	1,159	47.56

Source: Group of Telecommunications Consumer Protection





2. The details of issues of complaints and the number of complaints in telecommunications services are as shown in Table 67 below:

Table 67: Complaints and Number of Cases in 2013

Issues of complaints	No. of cases
Incorrect billing	271
Standard services	665
Limited time of usage for pre-paid mobile phone	318
Service fee is not at the maximum rate	187
Additional services	192
Incomplete data	161
Cancellation of services	251
Quality of services	88
Cancellation of pre-paid phone, advance payment (request for return of money)	19
Have access to services	12
Privacy	11
Pre-paid phone services	2
Others	60
Grant Total	2,437

Source: Group of Telecommunications Consumer Protection

3. Number of Complaints Characterized by Service Providers

In 2013, NBTC received 2,437 complaints. The service providers who are the first three ranks which received the highest number of complaints are: Total Access Communication Plc. who received 573 cases, which is 23.51 percent out of the total cases (2,437 cases). Second is Advance Info Service Plc. who received 542 cases, which is 22.24 percent out of the total cases (2,437 cases) and Real Move Co., Ltd. received 429 cases, which is 17.60 percent out of the total cases (2,437), as is shown in Table 68.





Table 68: Number of Complaints Categorized by Service Providers in 2013

Service providers	No. of issues	Percent
Triple Internet Co., Ltd.	146	5.99
TOT Plc.	110	4.51
True Internet Co., Ltd.	80	3.28
Advance Wireless Network Co., Ltd.	75	3.08
Samart I-Mobile	71	2.91
CAT Telecommunications Plc.	55	2.26
DTAC Trinet Co., Ltd.	49	2.01
True Corporation Plc.	43	1.76
Advance Internet Revolution Co., Ltd.	15	0.62
TT&T Co., Ltd.	12	0.49
Hutchison CIT Wireless Multi Media Co., Ltd.	7	0.29
Triple T Broadband Plc.	7	0.29
True Life Plus Co., Ltd.	5	0.21
Digital Phone Co., Ltd.	2	0.08
Asia Wireless Communication Co. Ltd.	2	0.08
Advance Data Network Communication Co., Ltd.	2	0.08
Loxley Co., Ltd.	1	0.04
365 Communication Co., Ltd.	1	0.04
KSC Commercial Internet Co., Ltd.	1	0.04
Other service providers	2	0.08
Total	2,437	100.00

Source: Group of Telecommunications Consumer Protection





Besides the statistics on complaints in telecommunications services as per above Table, the NBTC Office gives advises and recommendations to the complainants who have problems with telecommunications services and NBTC is able to solve the problems immediately without the complainants having to officially submit cases to NBTC. The complaints can be categorized according to the kind of services, as shown in Table 69 below:

Table 69: Complaints Handling Efficiency in Telecommunications Services

Type of services	No. of cases	Case closed	Percent
Mobile phone	49	49	100
Fixed line phone	38	38	100
Internet	1	1	100
Total	88	88	100

Source: Group of Telecommunications Consumer Protection

4. Coordination with Licensee in Solving Complaint Problems

In addition, in order to solve complaint problems with speed and efficiency, the NBTC's policy is for NBTC to coordinate with licensee in solving complaint problems so that the process can be fast. NBTC has established that there should be a monthly meeting with licensee so that all complaint cases can be solved, especially the problem of free SIM cards. Later, a service fee was being collected without the services being opened. In 2013, there were 138 cases of complaints about free SIM cards, 122 cases have been solved and 26 are in process, as shown in Table 70 below:

Table 70: Complaints Handling Efficiency on Free SIM Cards in 2013

Service providers	Closed cases	In-process cases	Total cases
AIS	2	0	2
AWN	0	1	1
DTAC	2	0	2
I-MOBILE	28	6	34
TRUE MOVE	3	0	3
TRUE MOVE H	87	9	96
TOTAL	122	26	138

Source: Group of Telecommunications Consumer Protection





5. Establishment of Telecommunication Mediation Center

1) The establishment of the Telecommunication Mediation Center for telecommunications services would provide an additional channel for settling dispute to telecommunication services and would create opportunity for complainant to reach an agreement faster and with satisfaction for both parties for a win-win outcome. However, if the dispute could not be settled, the complainant could file complaints through the usual channel without destroying the process of receiving complaints.

The establishment of the Telecommunication Mediation Center was in accordance with the regulation of NBTC, which is the dispute resolution between the licensee for telecommunications services and the complainant in 2010. It was a mechanism for settling dispute for the licensee of telecommunications businesses and the complainants. In this process of dispute resolution, there is a mediator who is the person in between to assist, recommend ways for negotiations to end the dispute between both parties.



Figure 81: Telecommunication Mediation Center (TMC)

The NBTC Office officially opened the Telecommunication Mediation Center (TMC) on November 19, 2013 and Dr. Sutthipol Taveechaikarn gave the honor to chair the opening ceremony of the Telecommunications Mediation Center. There were more than 150 persons who participated, which consisted of representatives from ASEAN countries, namely, Cambodia, Laos, Malaysia, Burma, Philippines, Thailand and Vietnam and representatives from regulatory organizations in telecommunications (AGCOM) from Italy and representatives from Thailand's related agencies both from the governmental and private sectors.





Figure 82: Opening Ceremony of Telecommunication Mediation Center (TMC)

2) A training for negotiators using intensive curriculum has been organized by NBTC and Khon Kaen University, which acted as the adviser of the project on development of technical curriculum and ways of negotiations, for outsiders and the management of the NBTC Office on October 12-13, 2013 and October 19-20, 2013 at Krung Sri River Hotel, Ayutthaya Province. There were 49 participants.





Figure 83: Training on Negotiation Technique

3) The negotiation of disputes settlement in 2013 of the NBTC was implemented under the regulations of NBTC, which was to settle disputes between licensee of telecommunications services and the complainant of 2010, emphasizing initiation of mediation process upon request of the complainant, to promote and disseminate selection for ways of settling disputes. The mediations and dispute resolution, the preparation of a directory and record of mediation, registration lists and coordination with mediators and the preparation of reports and statistics related to the implementation of mediations can be summarized as follows:

The implementation of mediation of disputes by complainant can be divided into 2 parts as follows:

- **During the period where registration of mediators has not been established.**

The mediation of disputes according to the regulations of NBTC should have a registration of names of mediators and when both parties states their intention to enter into mediation process, NBTC has to appoint a mediator from the registration list and the person will perform the duty as a mediator on a case by case basis. During the time that the registration list of mediators is not yet available, NBTC helped coordinated and facilitated for both parties who wanted to enter into mediation process, provide discussions and find ways to end the disputes in the meantime. At this stage, there were 18 cases of parties who wanted to enter into the mediation process, 12 cases have been closed and there is still a remaining of six cases which has not been settled and action has been done in accordance with the Notification of NTC for the process of receiving complaints and consideration by the users.

- **During the period where registration of mediators has not been established**

NBTC has registered 20 names of mediators on October 22, 2013 in accordance with the regulations of NBTC on mediation of disputes between licensee of telecommunication services and complainant of 2010. During the months of November to December 2013, there were 33 cases of dispute parties who wanted to enter into the mediation processes and it could be divided into 2 categories as follows:

1) There were parties who have indicated intention of entering into the mediation processes and mediation processes had taken place and there were three cases of disputes which have ended.



2) There were parties who had indicated intention of entering into the mediation processes and NBTC has informed the other party to enter into mediation processes but there were 30 cases which have not yet been taken into consideration for mediation process by NBTC.

6. Consumer protection for using the services, monitoring the quality and standard for telecommunication services.

1) Solving the problem of pre-paid phone by setting minimum standard for protecting the consumer. Every promotion and every pre-paid value should have accumulation of at least 30 days and accumulation can still be made until 365 days.

การใช้โทรศัพท์ระบบเติมเงิน

ในความคิดของคนทั่วไป: เบอร์โทรศัพท์เติมเงินก็เหมือนเงินของเรา!

ข้อเท็จจริง: เบอร์โทรศัพท์เติมเงินมีกำหนดอายุที่มืออยู่จำนวนจำกัด จะหมดอายุให้เสียเงินใช้งานทันที

เดิมเงินแล้ว ซิมต้องไม่มีวันหมดอายุ

ต้องมี เพราะหากไม่มีวันหมดอายุ เบอร์ที่คนทิ้งแล้ว จะไม่สามารถใช้งานได้ทันทีในกรณีที่ซิมหายหรือชำรุด ทุก 2-3 ปี

จากประสบการณ์เดิม: 0 Day วันหมด เงินโดนยึด!

ทันประสบการณ์ใหม่: ตามประกาศ กสทช. ข้อ 34 พ.ศ. 2561 ไม่มีสิทธิยึดเงินคืน หากผู้ใช้ยังมิใช้งานอยู่ภายในระบบ สามารถขอคืนได้ในหลายรูปแบบ

กสทช. มีคำสั่งให้ 3 ค่ายมือถือ สบเตือนนิย "เติมขึ้นต่ำ 10 บาท" ก็จะได้รับวันใช้งานขั้นต่ำ 30 วัน และสะสมวันใช้งานได้ไม่น้อยกว่า 365 วัน

เงื่อนไขมาตรฐานขั้นต่ำที่จะเป็นประโยชน์ต่อผู้บริโภค ได้แก่

- ผู้ใช้สิทธิเติมเงินทุกค่ายต้องได้รับเอกสารการใช้งานไม่น้อยกว่า 30 วัน
- เมื่อมีการเติมเงินเพิ่มจะต้องมีการแจ้งเตือนจากค่ายมือถือให้ผู้ใช้ทราบในระยะเวลาที่กำหนด โดยทางระบบเตือนล่วงหน้าด้วย 365 วัน
- ในกรณีที่มีการแจ้งเตือนแล้วแต่ผู้ใช้ไม่สนใจ หรือผู้ให้บริการไม่แจ้งเตือนให้ผู้ใช้ทราบ กสทช. จะสั่งให้ผู้ให้บริการดำเนินการแจ้งเตือนให้ผู้ใช้ทราบโดยอัตโนมัติ



Figure 84: Setting Minimum Standard for Protection of Consumers in Pre-Paid Service





2) Stopping of unwanted SMS messages/applying membership with no intension. The joint collaboration among NBTC and the five mobile service providers, i.e. CAT Telecommunications Plc., TIT Plc., Total Access Communications Plc., Real Move Co., Ltd., Real Future Co., Ltd, and Advance Info Service Plc., has opened a cancellation channel for SMS service through IVR *137 on March 6, 2014, in order to stop unwanted SMS messages/applying membership with no intension, which helped to solve the problem of unknowing cost.

During the past, NBTC had received complaints from users of mobile phone relating to the problem of promotional package of short SMS messages of mobile phone, for many cases of over bill. Most problems came from the users of services received business advertisement messages through mobile phones and those which users have no intention of applying membership, or user is not knowledgeable enough or does not have enough understanding about the condition of SMS services. Therefore, there was a misunderstanding and problem about services in different ways, such as users received business advertisement messages sent through mobile phones, those which include public relations messages, advertisement of products, inviting membership, asking to download clip, games, fortune teller, predict football game and other forms. The users were impacted with these disturbance messages and some users have no intention of applying membership and receiving billings for such cost.

With such problems, they were not solved immediately for users since they did not know clearly the channel for cancellation. In most cases, users contacted the content provider who sent messages through their mobile phones or in some cases, users call the service provider to cancel SMS messages through the Call Center. This cost a waste of time to phone the Call Center and to have to pay for calling to cancel the services. Some users also called NBTC to help solve the problem. The NBTC Office has to advise the users to file complaints according to the regulatory announcement of NTC. Therefore, the problems could not be solved immediately.

Hence the NBTC Office and the five service providers jointly held a meeting to discuss ways of collaboration in preventing and solving such problems continuously, until they were able to come to an agreement to prevent and solve problems of users' grievances. They have established a channel for cancellation of SMS services through IVR system using the same number for all networks, that is *137 without any cost, except by TOT3G which still has a limitation in the system. Also, there was a system for cancellation of SMS messages by typing name of users who wanted to cancel with spacing, then b, and send SMS to 1777 with no cost as well. The cancellation channel both by *137 and SMS 1777 have been in used for quite sometimes, which were channels for cancellation of SMS services that are easily remembered, cancellation can be made by oneself with convenience, save time and cost, and without any charge.





Figure 85: Channels for Cancellation of SMS Services through IVR via *137

3) The closing of internet in all systems of mobile phone before traveling abroad by pressing *106#, the NBTC was aware of the problem of being charged for international roaming of mobile services. In most cases, it was the cost of international data roaming for using smart phone while travelling abroad. Many service providers gave numbers and ways to close the international data roaming differently and thus creating confusion for using the services. Therefore, the NBTC has requested all internet service providers to use the same number and same ways in closing the international data roaming by pressing *106# and then dial out without any costing. This service has come into effect from December 16, 2013 onward. This was to help provide convenience to users speedily and to ensure that the internet was closed every time when travelling abroad and when





the users returned to Thailand, they could request for opening the normal data service in order to be able to use the normal service within the country and the service provider would inform the users through SMS that the data service could now be used.



Figure 86: Public Campaign for using *106# to Close International Data Roaming Service

Pressing the number *106# then call which is the same for every service provider to provide the convenience for all mobile phone subscribers when travelling abroad in the case that the subscribers would like to quickly cancel the data roaming service through the internet and to make sure that the service is cancelled on every trip abroad. This service should reduce the problems of subscribers being charged for international data roaming.





4) The NBTC Notification to remedy and protect the consumers in cases where there is an expiration of the concession license or operation agreement of telecommunications services in 2013 or what is called as notification on “Prohibition of SIM Closing”, which is considered as a measure by law to close the loophole of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010)”, which was in between the gap of the agreement ending for 1800 MHz, in order to pass this crisis of “SIM Closing”. This was successful in allowing the public to use the service of 2G mobile phone system on 1800 MHz frequency without any interruption and allowing time to transfer to the new network smoothly within one year.

5) Reduction of service fee

(1) The pushing for a reduction of service fee for holding on to the Mobile Number Portability, from the service fee of THB99 to only THB29.

(2) The setting of user rate and temporary linking of telecommunications network, where the old license for 3G has an interconnection rate of THB1.00 baht and to reduce down to THB 0.45, resulting in having a low cost for interconnection of network by service providers of mobile phones and thus affecting the cost of service to be lower. At present, all mobile phone entrepreneurs agreed to use the rate of THB0.45 as a central rate for interconnection.

6) Monitoring of standard services for mobile phones.

(1) Checking of sampling areas of service providers of mobile phones and surveying of SIM cards by going down to the areas, the big three service providers of SIM cards are: AIS, DTAC and TRUE MOVE. The purpose was to check the SIM card services provided to consumers, at Central World in Bangkok, Siam Paragon in Bangkok and to check the pre-paid cards at the services center of AIS, DTAC and TRUE MOVE at Central Department Store, Chiang Rai Province.





Figure 87: 2G and 3G Mobile Phone Services Monitoring

(2) Focusing on telecommunication regulatory on the standard of service for 2G and 3G mobile phones for efficiency (QOs). On September 22, 2013, the NBTC with joint collaboration of Hi-Tech Show program, the blogger team of about 40 members drove around to check the signal of mobile phones within Bangkok areas by checking mobile phones of five service providers, i.e. AIS, DTAC, True-H, TOT and My by CAT with laboratory vehicles with signal testing equipment. Within a vehicle, there would be many mobile phones and aircards that used the five service providers' SIM cards, in order to conduct signal testing and also to check Voice Call, downloading of data through mobile data service, to check the quality of signal and the quality in receiving data through 3G network.

The signal testing was done by sending the signal testing for monitoring of different areas and to send back the result both for Voice Call (2G) and Data service (3G). As for outside calls, it was to call to the fixed line phones or house phones in order to prevent the questioning of whether the signal was not good or the signal signed out at destination point, such as roaming calls and therefore the way is to call the landline which is easier for controlling the variables.

For testing of 3G signal by NBTC, there were two ways that were used in parallel: using drive testing that did the testing of signal every day during the official hour and the use of automatic box testing signal that used SIM cards. There were many testing equipment placed in many areas such as Chiang Mai and Nonthaburi, which provide testing for both 2G and 3G together with 1800 MHz and the ones which concession agreement have ended were 900 MHz, 850 MHz, 2100 MHz and including 4G LTE. There was to be box testing and testing in sending data and there was also internet real time which were tested in high-rise buildings and it could also be placed in locations where transport could not be reached, such as within a building. The difference in the use of box testing was that the box would do testing automatically and would compile holistic information while car testing of signal collected data in detail and would work in parallel in case there was a problem with the box testing. It would be able to monitor the car testing of signal in detail.



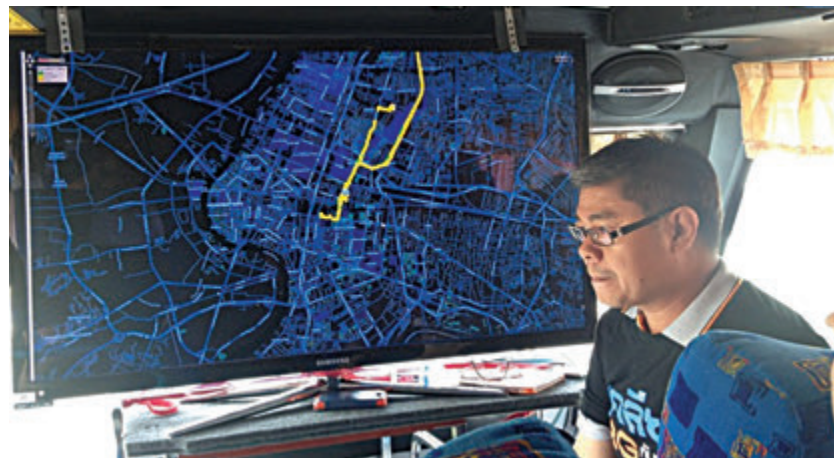


Figure 88: Mobile Network Drive Test





**Figure 89: QOS Monitoring for 2G and 3G Mobile Phone Services, by Signal Quality
of five Service Providers**





(3) Focusing on telecommunication regulatory on quality of service in 3G system (QOS). NTC went into the areas continuously for checking signal for 3G services by using drive-test car by themselves, such as in Phuket, especially in the areas of community services and in important tourist places, such as airport, hospital, beach side, during October 30-November 1, 2013.



Figure 90: QOS Monitoring 3G Mobile Phone Service

(4) Focusing on Public Sector

NTC nurtured public sector engagement by giving opportunity to the public, public network and all concerned sectors of the society to give view point, exchange data and ideas for making selection and decision-making that was appropriate and was well-accepted jointly. NTC appointed a Sub-committee on Public Engagement in Telecommunications Services with Assoc. Professor Dr. Wanchai Wattanasap as Chairman of the sub-committee and with 12 distinguished sub-committee members. The purpose was to promote and develop a mechanism for public engagement to understand the context of spectrum management, the utilization of spectrum as a national communication resources for the benefit of the public and for monitoring of telecommunication services, taking into consideration the maximum benefit of the public related to economic, education, culture, state security and other public interests in every regions of Thailand, including the free competition with fairness that will lead to better development of channel of communication for the public in telecommunication of Thailand. This also included support for the promotion of rights in communicating and receiving information for future progress. The sub-committee may use the format that builds public engagement to learn about problems, the truth and recommendations from the public, such as:

- To provide public information by informing before, during and after implementation of important work of NTC that had the most impact on the public.
- To provide advice and have public consultant on related issues that have an impact in order to receive comments and for additional checking for increase understanding.





- To hold a public meeting with regard to the implementation of NTC, that was considered very important for the public to be involved for their own interest and to make use of the public forum in understanding and knowing the reasons for various implementations. There were many ways that the sub-committee could choose which was most appropriate, such as through community meeting, technical hearing, public hearing or decision-making.

Therefore, public engagement in telecommunications was by visiting the areas to listen to problems, comments and recommendations from the public in every region of the country, in order to use these information data in all angles for analysis, differentiating and decision-making. This was to help improve the work in monitoring telecommunications services of the country for sustainability, and having the most important ultimate goal in mind that is for the public to get the highest benefit in the national telecommunication businesses. In addition, the appointment of the Sub-committee on Public Engagement in Telecommunication Businesses would allow the public to provide ideas in issuing rules and regulations as well as in public hearing for telecommunication services in full form for the first time in Thailand. The public engagement process was also being used with the process for organizing 1800 MHz. band.

7. Focusing on Public in all Regions

(1) Arranging NTC Meeting with the Public.

The NTC had organized “NTC meetings with the public” in all regions by travelling to the areas themselves in order to provide knowledge to the public relating to the direction for monitoring NTC telecommunication services, by providing a keynote address about NTC and its mission to the public and a give a talk about the roles of the NTC Commission on Telecommunication Services.

- NTC’s first meeting with the public (South) in Phuket Province
- NTC’s second meeting with the public (North) in Lamphun Province
- NTC’s third meeting with the public (Northeast) Nakhon Ratchasima Province
- NTC’s fourth meeting with the public (East) in Rayong Province
- NTC’s fifth meeting with the public in Nakhon Pathom Province





Figure 91: NBTC Roadshow

In addition, a public hearing was organized, to listen to problems and comments from the public in the different areas to answer all queries and listen to all recommendations from the public. This is to use these data and ideas for improving the work which coincide with the real needs of public.

(2) NTC visited the areas to listen to problems and complaints from the public, such as receiving letters of complaint from the people of Ban Na Wan, Moo 2, Chiang Kham District of Phayao Province. They gave encouragement and requested that the AIS signal tower be removed from the village. The meeting was held at Dusit Island Resort, Chiang Rai Province.

8. Promotional Activities on International Cooperation Among Countries Related to Consumer Protection in Telecommunications Services.

Hosting of the ASEAN Workshop on Telecom Consumer Protection: Theories and Practices on November 18-19, 2013 at Pullman Bangkok King Power Hotel, Bangkok.



Figure 92: ASEAN Workshop on Telecom Consumer Protection: Theories & Practices





The organization of the ASEAN Workshop on Telecom Consumer Protection: Theories & Practices had the objectives for exchange of knowledge, experiences and good practices related to consumer protection and building consumers' awareness among ASEAN countries and the European Union, find ways to handle new problems and to allow discussion on new challenges in consumer protection in telecommunication services, future trend in consumer protection as well as the cooperation among ASEAN countries on consumer protection in telecommunication services. The organization of this workshop was in accordance with the approval of the ATRC Working Group on April 8-10, 2013 held at Hai Phong, Vietnam, which was in agreement and has established that consumer protection as an important issue which the ASEAN monitoring agencies of telecommunication services should consider as a key priority issue. The meeting has also approved the project recommendation to organize this Workshop on Consumer Protection, in order to create awareness for consumers. The NBTC representative has recommended at this workshop that Thailand accepted to host this workshop. It was considered as a new dimension on consumer protection in telecommunication services in ASEAN region that ATRC has given importance.

The workshop was honored by Dr. Suthiphon Thaveechaiyagarn who presented a keynote address on "Current Situation on Consumer Protection, Mechanism for Dispute Resolution, and Future Trends". The content emphasized the building of balance in competition of service providers in telecommunication services and the benefit that the consumers will receive from the joint collaboration in the form of establishing different forums, such as integration of telecommunication services group or integration of monitoring agencies and other related agencies to jointly find ways to solve problems for consumers, to promote the process of Alternative Dispute Resolution (ADR) in solving problems of consumer's complaints and to promote ASEAN country memberships to have the Common Policy and Framework. The workshop recognized the policy recommendation and framework for implementation of consumer protection for both monitoring agencies of telecommunication services in ASEAN countries and European Union. This also included the measure in realizing the environment of the fusion of technology. Besides, there was also an exchange of experiences in monitoring, implementing good practices in consumer protection of telecommunication services and the process of receiving and solving problems of complaints, such as calculating the cost of services, quality service of SMS Spam roaming, standard services and to set a schedule for using mobile phones that becomes a problem issue in every country.

9. Activities for dissemination of knowledge to the public.

1) Arranging of activities to disseminate knowledge on mobile phone services near the border areas to prevent the problem of being charged for international roaming.

The NBTC Office established a project to disseminate knowledge about the use of mobile phone around the border areas to prevent the problem of being charged international roaming at Nongkhai, Buengkan and Chiang Rai provinces. This was to let the people living along the





border areas near neighboring countries and the general public to know the cause of the problem and to be able to use the mobile phone services along the borders wisely and know how to prevent and solve the problems that may occur. A workshop was organized on the topic of “The use of mobile phone along the border to prevent the problem of being charged for international roaming automatically and for the consumer to know his rights in telecommunication services.” The display of mobile booth for the dissemination of documents and for receiving complaints, the organization of a temporary exhibition to provide knowledge and together disseminating documents at provincial fairs. The preparation and dissemination of promotional materials for providing knowledge to the public are: bill board advertisement, vinyl banners and educational brochures “Using Mobile Phone near the Mekong River ... Beware of Being Charged across the Border”. The detail is below:

(1) Nongkhai Province

- On March 13, 2013, arranging an activity to provide knowledge on the use of mobile phone near the border areas and the conditions for use of international roaming at the PrapHor Monument and annual 2013 Red Cross Fair for one day
- On March 14, 2013, arranging a workshop with 250 participants

(2) Buengkan Province

- On March 18, 2013, arranging of a workshop with 120 participants

(3) Chiang Rai Province

- On April 2, 2013, arranging of a workshop at Muang District with 200 participants
- On April 4, 2013, arranging of a workshop at Chiang Khong District with 200 participants

Later, the project for dissemination of knowledge was implemented, on the use of mobile phones along the border areas, to prevent the problem of being charged for international roaming automatically for phase two as a continuation of phase one and implementation was extended to other provinces for disseminating information for consumers who live along the border areas closed to the neighboring countries and for the public to know the cause of the problem and to know how to use the mobile phone wisely through television news that is on-air throughout the country and through spot radio that disseminate information in 7 border provinces closed to Laos, so that knowledge can be extended to the wider public.

2) Arranging regional workshops to the public

NBTC organized activities to provide knowledge to the public outside of the premises, which consisted of knowledge training, exhibitions and activities related to the issues of consumer rights in telecommunication services. The objective was to promote the dissemination of knowledge for consumers and the general public on telecommunication services to understand their rights and to be aware of their own rights by laws, as well as to publicize the roles and duties of NBTC, and the channel for receiving complaints on the problems of telecommunication services.

- Arranging a workshop on “The Right to Know... for Consumers in Telecommunication services” in order to provide knowledge for the head of the governmental agencies, the local





government and other community leaders, consumer protection agencies, local media, students, the general interested public in five regions (five provinces, 250 participants per province) as follows:

(1) Central region: Arranging a workshop on Thursday, September 26, 2013 from 08:00-15:00 hrs. at Nopparat Room, the Royal Diamond Hotel Phetchaburi, Muang District, Phetchaburi Province.

(2) Northeast region: Arranging a workshop on Monday, October 7, 2013 from 08:00-15:00 hrs. at ONE Room 2, Vee One Conference Center, The One Hotel, Muang District, Nakhon Ratchasima Province

(3) Eastern region: Arranging a workshop on Monday, October 14, 2013 from 08:00-15:00 hrs. at KohKaew Room, Classic Cameo Hotel, Muang District, Rayong Province

(4) Northern region: Arranging a workshop on Monday, November 25, 2013 from 08:00-5:00 hrs. at International Conference Center, Chiang Mai Grand View 2 (GV2), Chiang Mai Grand View Hotel, Muang District, Chiang Mai Province

(5) Southern region: Arranging a workshop on Monday, December 16, 2013 from 08:00-15:00 hrs. at Chompoo Pol Grand Room, Muang Likor Hotel, Muang District, Nakhon Sri Thammarat Province.



Figure 93: Workshop on “Consumer Right in Telecommunication Services”

- Activities to provide knowledge on the rights of consumers in telecommunication Services in the educational institution. It was a training workshop to provide knowledge on the rights of consumers in telecommunication services, channel for complaints when problems on the use of services occurred, as well as knowledge related to other telecommunication services. During the training, there were games played for prizes, the temporary organization of an exhibition to publicize books and documents for the students of different departments, for professors and concerned officials of five Rajaphat Universities in the five regions (200 students per place) as follows:



(1) Central region: Arranging an activity on Wednesday, September 25, 2013 from 13:00-15:00 hrs. at Conference Hall, Phetchaburi Rajaphat University, Muang District, Phetchaburi Province

(2) Northeastern region: Arranging an activity on Sunday, October 6, 2013 from 13:00-15:00 hrs. at Conference Hall, Nakhon Ratchasima Rajaphat University, Muang District, Nakhon Ratchasima Province

(3) Eastern region: Arranging an activity on Saturday, October 12, 2013 from 13:00-15:00 hrs. at Conference Hall, Rambhai Pannee Rajaphat University, Muang District, Chanthaburi Province

(4) Northern region: Arranging an activity on Tuesday, November 26, 2013 from 13:00-15:00 hrs. at Conference Hall, Chiang Mai Rajaphat University, Muang District, Chiang Mai Province

(5) Southern region: Arranging an activity on Tuesday, December 17, 2013 from 13:00-15:00 hrs. at Conference Hall, Nakhon Sri Thammarat Rajaphat University, Muang District, Nakhon Sri Thammarat Province



**Figure 94: Activity on Consumer Rights in Telecommunication Services
in Education Institution in 2013**

3) Awareness of consumer rights in telecommunications services through various media

Printed Media

The NBTC produced and promoted knowledge about the use of telecommunications services for consumers in various media, such as books, magazines, websites and other printing materials, which was a proactive public communications and public relations to create awareness of their rights in using various telecommunications services wisely and with efficiency. The NBTC

also produced and printed books and documents related to consumer protection in telecommunications services and promoted public relations to different related agencies both governmental and private sectors, including promoting various activities continuously. It has gained wide interest from the public and different agencies and many have contacted to obtain these books and printing materials to promote public relations. Some samples of the books and printed materials are, such as, rights of consumers in telecommunications services (pocket book), rights of consumers in telecommunications services (cartoon edition), tips on how to avoid the impact of blue waves on human health. For mobile phones, there were brochures on setting of mobile phones, brochures on “Using a Mobile Phone on the Mekong River ...Beware of Being Charged across the Border”, and Mobile Passport roaming handbook.



Figure 95: Public Relations Documents on Knowledge on the use of Telecommunications Services

Radio Media

NBTC produced and promoted public relations media in the form of spot jingles and short documentaries of 30 series through various radio programs of Radio 1 Por Nor continuously throughout 2013 for the general public both at the central and regional levels. The objectives were to raise awareness and strengthen understanding of their rights as consumers in an efficient way. The provision of knowledge through radio media was one of the important channels of public media and proactive public relations that are able to reach the consumer groups widely and with efficiency.

In addition, besides the activities on consumer protection in telecommunications services, in 2013 NBTC also implemented the strategy on consumer protection in telecommunications services in accordance with the master plan of telecommunications services Edition One as follows:

1. Improve and enforce the criteria in protecting the privacy rights of consumers efficiently. The NTC Notification was in the process of developing and drafting the measures of protection of rights of the users of telecommunications services related to individual privacy information, rights to privacy and freedom in communication through telecommunications and also developing the draft notification on the monitoring of media through electronic system (email, SMS, MMS and Instant Message or IM) and the protection of consumer privacy.
2. Establish criteria on the protection of consumer rights, Section 31 Para 2 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Service B.E. 2553 (2010)".



3. Develop and improve standard contract, standard services, including criteria, methods and mechanism for checking quality service to protect the consumers in telecommunications services to receive quality service and to be able to use telecommunications equipment that is of international standard. The contract was in the process of revision, improvement/development of announcement criteria. They are:

1) Revise and improve the NTC Notification on standard contract in telecommunications services of 2006 and the revision and improvement of NTC Notification on standard and quality of services in voice telecommunications services 2008. This was to bring together the standard measure of consumer satisfaction and the standard criteria for measurement of technique. This would cause a change in parameter value that was used for measuring at present. Both standard measurements were used to find an average value for considering those service providers who do not pass the standard criteria. Service providers who did not follow the revised standard would be punished by Telecommunication Business Act B.E. 2544 (2001).

2) Draft NBTC Notification on actions that take advantage of consumer protection in telecommunication services of ... in order to protect the consumer in telecommunications services.





Strategy 6: Strategy on Preparedness and Entering into AEC and the Encouragement of International Collaborations

In 2013, the Office of NBTC implemented the strategy on preparedness and entering into AEC and the encouragement of international collaboration in accordance with the Master Plan of telecommunications services Issue 1 and the details are as follows:

1. Implementation of the promotion of collaboration with International Telecommunication Union (ITU) to develop telecommunication system of Thailand and NBTC has collaborated with ITU in many fields and most important was that ITU was the one who helped with the evaluation of 3G auction process in Thailand by using the international criteria to evaluate. On February 14, 2013, ITU has certified that the 3G auction process in Thailand was properly carried out, and was efficient according to international standard. It also recognized that the 3G auction process of Thailand was the model of success. The NBTC has closely collaborated with ITU by participating in a discussion meeting with the Secretary-General of ITU or participated in the seminar, and NBTC was also invited to be the expert for ITU in meetings such as the GSR 2013 meeting and the ITU Telecom 2013.

2. Preparation of agreement in technical collaboration with other countries. This collaboration resulted from the opportunity that NTC was given to travel to join the different conferences, whether it was the world level conference or the regional level that have conferences related to telecommunication services. Discussion was also held with different countries' monitoring agencies in telecommunication services in order to exchange ideas. A Memorandum of Understanding (MoU) was entered into an agreement for technical collaboration between NBTC and the monitoring agencies of Poland and Turkey in November 2013. Such agreement would bring about the exchange of knowledge and experience in the development of monitoring agencies and the development of telecommunications services jointly. This would help boost and support telecommunications industry of Thailand to grow into the forefront, as well to strengthen the good relationships between NBTC and the monitoring agencies of Poland and Turkey. In addition, there were also many countries which wanted to sign MoU's with NBTC, such as Korea, Malaysia and Pakistan. These were expected to be signed in 2014.

3. The NTC had a meeting with the ASEAN Committee in telecommunications with Indonesia and Myanmar and had provided guidance and impelled ASEAN countries to give importance to building a monitoring system in ASEAN and to use dispute resolution system in telecommunications services, to serve as a tool to reduce dispute among consumers and service providers of mobile phone.





4. Develop, improve and issue regulations related to telecommunications services

to coincide with international obligations and to push for an agreement in accepting one another with regard to standard and checking and to have a guarantee in telecommunications under the various frameworks, by creating a link among industry, auditing and standard certification agencies, service providers, monitoring agencies and users. The details are as follows:

1) The improvement of criteria for acceptance of test report from checking agencies of telecommunications equipment and equipment from abroad. The implementation of Mutual Recognition Arrangement of Telecommunications Equipment (MRA-TE) Phase 1 was supported. The process for implementing the MRA under the supervision of the monitoring agency council for ASEAN telecommunications services was recommended to NTC for consideration of approval of the MRA-TE Phase 1, which was the agreement of equality of technical standards for telecommunications equipment.

2) The criteria for appointing an agency to check telecommunications equipment was being drafted by NBTC, which included the setting or acceptance of standards that are not lower than the technical standards that NBTC has announced.

5. The implementation of a project study on the preparedness of telecommunication industry and the study of the effect of entering into the ASEAN Economic Community 2015

(Phase 1). A workshop was organized to listen to ideas on September 16, 2013 at Grand Ballroom Room, Century Park Hotel, Bangkok, with participation of NBTC, Assoc. Professor Prasert Silphiphat as Chairman and General Sukit Khamasunthorn from NBTC. Currently, the study was being submitted to NTC for consideration and the NBTC Office has presented recommendation/guidelines for preparedness of telecommunication industry to enter into the ASEAN Economic Community in 2015 for consideration of improvement, revision of the notification and regulations of telecommunications services that were constraints for entry into AEC. This was to achieve the maximum benefit for the nation, such as ASEAN – Inter Roaming and the Mutual Recognition Arrangement (MRA) on the issue of Spectrum Harmonization for 700 MHz frequency. In ASEAN, the frequency was used in telecommunications services (mobile) while Thailand uses 700 MHz in television broadcasting, and to be prepared for producing Spectrum Harmonization in all ASEAN group and to implement the study project of preparedness of telecommunication industry and to study the effect of entering into AEC in 2015 (Phase 2).





Figure 96: Public Hearing on the Preparedness of Telecommunication Industry and the Study of the Effect of Entering into ASEAN Economic Community in 2015 (Phase 1)

6. The NTC had a joint meeting with the Faculty of Economics of the Chiang Mai University in order to follow up on the progress of the project study on the preparedness of telecommunication industry for ASEAN Economic Community, held at Chiang Mai University. The NBTC also organized a training/workshop for the preparedness of their personnel, such as training on the monitoring of telecommunication services of NBTC on the issue of “International Agreement”. This was to prepare the NBTC personnel to have knowledge and understanding of the overall picture related to international agreement during December 1-4, 2013 at Chiang Mai University, Chiang Mai Province.



Figure 97: Follow-Up Meeting on the Project of the Preparedness of Telecommunication Industry for ASEAN Economic Community





7. Special Talk Session, Colonel Dr. Setthapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC) gave a special talk at the Thailand ICT Excellence Forum Seminar on “Gearing up for AEC 2015: ICTZ Interconnectivity” at Crystal Hall, Plaza Athenee Hotel, Royal Meridian, Bangkok on May 28, 2013.



Figure 98: Special Talk at the Thailand ICT Excellence Forum on “Gearing up for AEC 2015: ICT Interconnectivity” by Colonel Dr. Setthapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC)





8. Lecturer: Colonel Dr. Setthapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC) was a lecturer at the seminar on “Unlocking ICT, an Enabler of Innovative Growth” which was organized by the Association of European-ASEAN Business Promotion Center at the Centara Grand Hotel at Central World, Bangkok, on July 2, 2013.



Figure 99: Lecture on “Unlocking ICT, an Enabler of Innovative Growth” by Colonel Dr. Setthapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC)





9. Colonel Dr. Setthapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC) was the lecturer on the topic “Towards a Network Neutrality Policy for ASEAN” at the workshop “READI Workshop on Internet Connection and Internet Governance” held at the Aetas Hotel, Lumpini, Bangkok, on July 8, 2013.



Figure 100: Lecture on “Towards a Network Neutrality Policy for ASEAN by Colonel Dr. Setthapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC)





10. Dr. Sutthipol Taveechaikarn was invited to speak on the topic of “Future of the Thai Communications in the Age of Convergence” at the global level meeting “ICT Forum” at New Delhi, India, and was honored with the award “Excellence in Standard Fusion of Radio Telecommunications and Broadcasting” from Dr. Hamadoun I. Toure, ITU Secretary-General, at the “7th NTA ICT World Communication Awards, held at the Ficci Auditorium, New Delhi, India. This award was a proof of an acceptance in the work and the excellent dedication to media and technology information, as well as being a motivation and the promotion for developing media to achieve efficiency. The NBTC received this award from the successful organization of the auction and allocation of 2.1 GHz frequency until it has been widely accepted by the world community.

11. Participation in a discussion by Dr. Setthapong Malisuwan, Vice Chairman of NBTC (Chairman of NTC) on the topic “The Improvement and Strengthening of Thai Education with Technology Information and Media for Entry into ASEAN Economic Community in 2015”, which was held at Vayupak Conference Center, Centra Government Center and Convention Center Hotel, Chaeng Wattana Road, on November 26, 2013.



Figure 101: Participation in a Discussion on “The Improvement and Strengthening of Thai Education with Technology Information and Media for Entry into ASEAN Economic Community in 2015”





In addition to what have been stated above, the NTC still had an important work to promote international collaboration in telecommunication services under various frameworks both bilateral and multilateral, as below:

1) Three reciprocal agreements on amateur radio operator with foreign countries were been completed, which were: Reciprocal agreement of Thai-Denmark amateur radio operators, reciprocal agreement of Thai-Japan amateur radio operators and reciprocal agreement of Thai-French amateur radio operators.

2) The organization of a joint project on “The NIA/ITU International ICT Volunteers 2013” held on July 1, 2013 which was a joint collaboration between NBTC and the ITU, which was to send volunteer Korean students to work at the community internet centers that were established under the project USO NET of NBTC. It was a joint collaboration work of the local organizations and the community in four provinces, namely, Nakhonsawan, Phetchaburi, Udon Thani and Surin, for training of personnel interested in taking care of the centers and for those who were interested in basic computer and internet works. The work was also to publicize the community internet centers to be known to the public with the objective of disseminating and promoting the use of ICT work to be well-known. In addition, the volunteers also organized activities to exchange culture between Thailand and Korea. This helped strengthen the relationship between Thailand and Korea, such as language teaching activities, cooking and others.

The project on NIA/ITU International ICT Volunteers 2013 was a project implemented by the government of Korea under the organization of National Information Society Agency (NIA) with the ITU which was organized for the 2nd year. The objective of the project was for promoting the use of ICT in different countries, to make it widely known and to strengthen the capacity of personnel in such countries, especially on ICT through training on knowledge and development of applications and different contents, such as the building of websites, producing video, provide knowledge on the use of various modern programs. For this year, NIA and ITU have sent volunteers to four countries, i.e. Cambodia, Indonesia, Mongolia and Thailand.

3) The preparedness of NBTC personnel by providing training/workshop with the cooperation of the monitoring agencies, universities and international technical institutions.

- Curriculum training project “Training Course on Telecom Regulation from the Perspective of Economic Regulation and Competition Law” held on May 14-17, 2013 at Siam@Siam Hotel, and curriculum training “Advance Course on Telecom Regulations from the Perspective of Economic Regulation and Competition Law” at Barcelona, Spain and Lisbon, Portugal, held during October 18-24, 2013. This training was the collaboration between NBTC and Blanquena Communication School, Spain, Comision del Mercado de las Telecomunicaciones (CMT) or NTC of Spain and Autoridade Nacional de Comunicacoes (ANACOM) or the Office of National Telecommunications Businesses of Portugal.

- Organization of curriculum training on “ICT Policies for an Advanced Network Society” with the collaboration of the Office of NBTC and Waseda University of Japan, in order to learn the dimension of policy in monitoring telecommunications businesses and the management of





frequency both in terms of the existing technology and the technology in the future, which was held on 27-31 May 2013.

- Arranging of a project for technical collaboration on laws and competition under the topic “Telecommunications Law: USO & Net Neutrality Regulations” with the collaboration of NBTC and the University of California at Berkeley, USA. The curriculum training was on “Net Neutrality Regulations and Universal Service Obligations”, which was held on August 29 – September 9, 2013 in the United States of America.

- Arranging NBTC - ITU Workshop on “Satellite Communications” held during October 31 – November 1, 2013 at The Sukosol Hotel. And the training workshop on the increasing leadership skills of the organization for preparedness for entry into AEC, which was held on October 8-9, 2013, at Centara Grand Hotel, Central Plaza, Bangkok.

- Arranging a training on “Monitoring of NBTC Telecommunications Services under the Context of International Agreement”, in order to prepare the NBTC personnel to have knowledge and understanding of the overall picture related to international agreement under the context related to monitoring telecommunications service of NBTC, which was held on December 1-4, 2013 at Chiang Mai University, Chiang Mai Province.



Section 4

Major Performance Report for NBTC Office in 2013



NBTC Office's Management Structure

The NBTC Office has established NBTC Management Structure in line with NBTC regulation for division of offices within NBTC in 2012 and which was published in the Royal Gazette Book 129, Special Gazette 25C, dated January 27, 2012, as shown in Chart 9 and NBTC Manpower in 2013 shown in Table 71.

Organizational Structure of the Office of the NBTC.

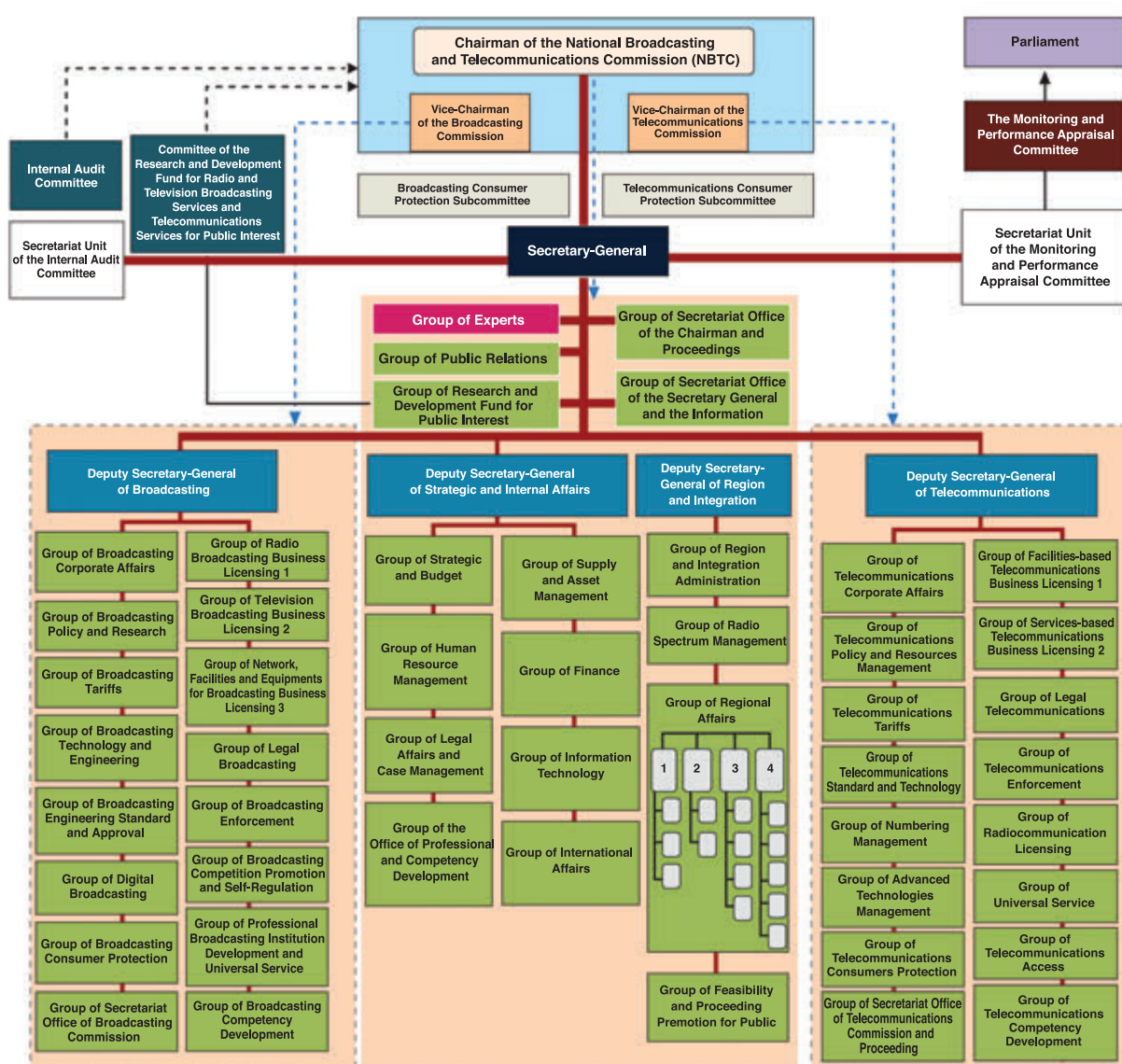


Chart 9: Structure of the NBTC Office



Table 71: NBTC Office Manpower in 2013

Positions	Number of People
Senior Level Executives	1
Middle Level Executives	35
Junior Level Executives	77
Specialist	2
Contracted Specialist	2
Experts	1
Senior Level Officials	310
Middle Level Officials	83
Junior Level Officials	68
Contracted Employees	387
NBTC Staff	
• Adviser	30
• Secretary	14
• Assistant Secretary	18
• Operations Staff	42
• Driver	8
Total	1,083

Remarks: Data as of December 31, 2013

Source: Group of Human Resources Management





Management of NBTC Office, Management of Human Resources, Budget, Finance and Assets and Implementation of Other Works of NBTC's Office

In 2013, the NBTC Office has performed the general administrative work, managed human resources, budget, finance and assets and implemented other works of NBTC Office. The major performances are as follows:

1. The preparation of the annual budget expenditure

The NBTC Office has approved the guidelines for preparation of the annual budget expenditures. The NBTC annual budget expenditure is as per Section 27 (20) of The Act on Organization to Assign Radio Frequency and to Regulate Broadcasting and Telecommunication Services B.E. 2553 (2010). NBTC Office was to prepare the annual budget expenditure for 2013 to be in line with budget guidelines and the budget calendar of 2013. It was to follow regulations related to the budgetary procedures and must know the estimated revenue of NBTC for 2014. On December 11, 2013, NBTC has taken into consideration the budget expenditures for implementation of NBTC's work and has approved the minimum budget expenditures that were essential, including budget commitments over the year for 2013 and the framework of budget expenditures.

2. The appointment of various sub-committees

In 2013, NBTC has approved the appointment of eight sub-committees which consisted of the following:

- 1) Sub-committee on the development of central data center of NBTC
- 2) Sub-committee on project screening for requesting promotion and support from the research and development fund of broadcasting, television and telecommunications services for the benefit of the public
- 3) Sub-committee on management, monitoring and evaluation of the project on research fund and development of broadcasting, television and telecommunications services for the benefit of the public
- 4) Sub-committee on preparation of granting of licenses for 1800 MHz band.
- 5) Sub-committee on the promotion of broadcasting and television services
- 6) Sub-committee on security for the NBTC Office
- 7) Sub-committee on public participation in telecommunications services
- 8) Sub-committee on the study and recommendations for improvement in national spectrum management

The sub-committee members appointed should be knowledgeable, have high expertise, have recognized performances and reputation in related essential fields which were beneficial to performing the duties of NBTC, to be able to help speed up urgent cases with efficiency.





3. Establishment of Key Performance Indicators (KPI) for NBTC Office for 2014

In 2013, NBTC has approved the draft key performance indicators (KPI) at the office level for 2014 which coincided with the three Master Plans and was to be used at the office, work group and individual levels. These were the KPIs to be used for evaluating the annual compensation cost in 2014 for staff, employees and administrators of NBTC following the NBTC regulations on disbursement of compensation for 2014.

4. Organizational Development

In 2013, the NBTC Office has organized the annual NBTC Day for 2013 on October 1-4, 2013 in order to develop human resources to have the ability to create ideas to improve and develop their own work as well as to adhere to the guidelines in practicing the office values. This was to help promote and support the NBTC Office to be the knowledge organization for continued learning in the future. There have been development plans for 49 working groups and two divisions and award has been given to the winning work group. This would help improve implementation that would yield effects in practice, to further develop leading organization in monitoring.

Management and Monitoring of the Spectrum Broadcasting, Televisions and Telecommunications Services

(1) The statistics in checking spectrum in 2013, as shown in Table 72 and Chart 28 show the number of times for monitoring the use of frequency in 2012 as compared to 2013.

Table 72: Number of Times for Monitoring the Use of Spectrum in 2013

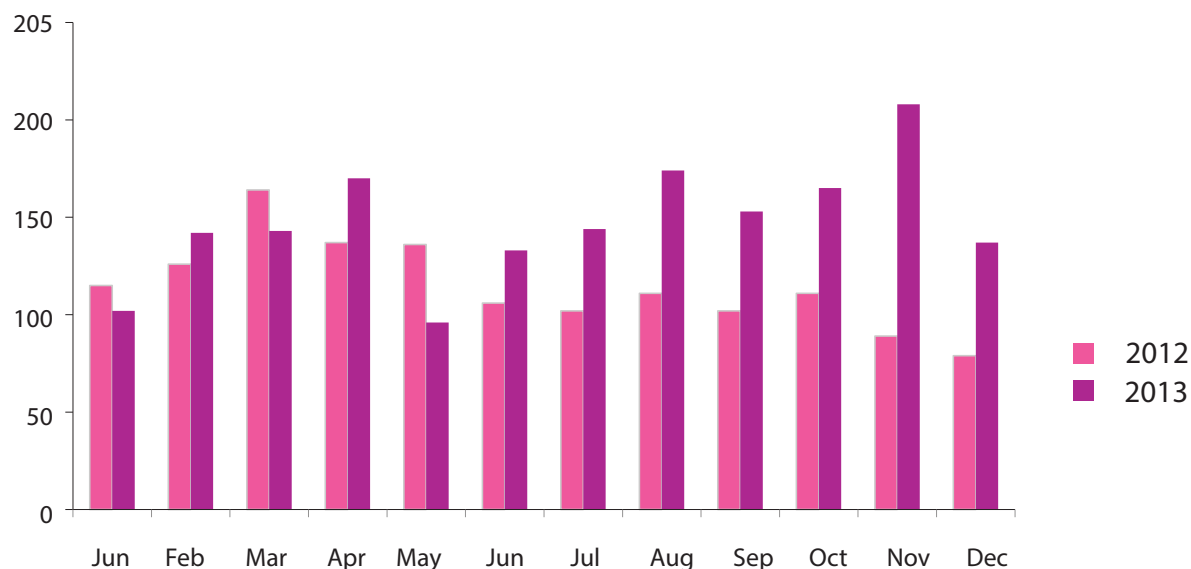
Month	Interference of aeronautical radio		Interference of other radio businesses	
	2012	2013	2012	2013
January	24	37	91	65
February	37	43	89	99
March	25	38	139	105
April	21	30	116	140
May	35	50	101	46
June	33	43	73	90
July	39	26	63	118
August	41	30	60	144
September	59	23	43	130
October	24	35	87	130
November	21	29	68	179
December	23	25	56	112

Source: Group of Regional Affairs





Graph 28: Number of Times in Checking Spectrum in 2012 as Compared to 2013



Source: Group of Regional Affairs

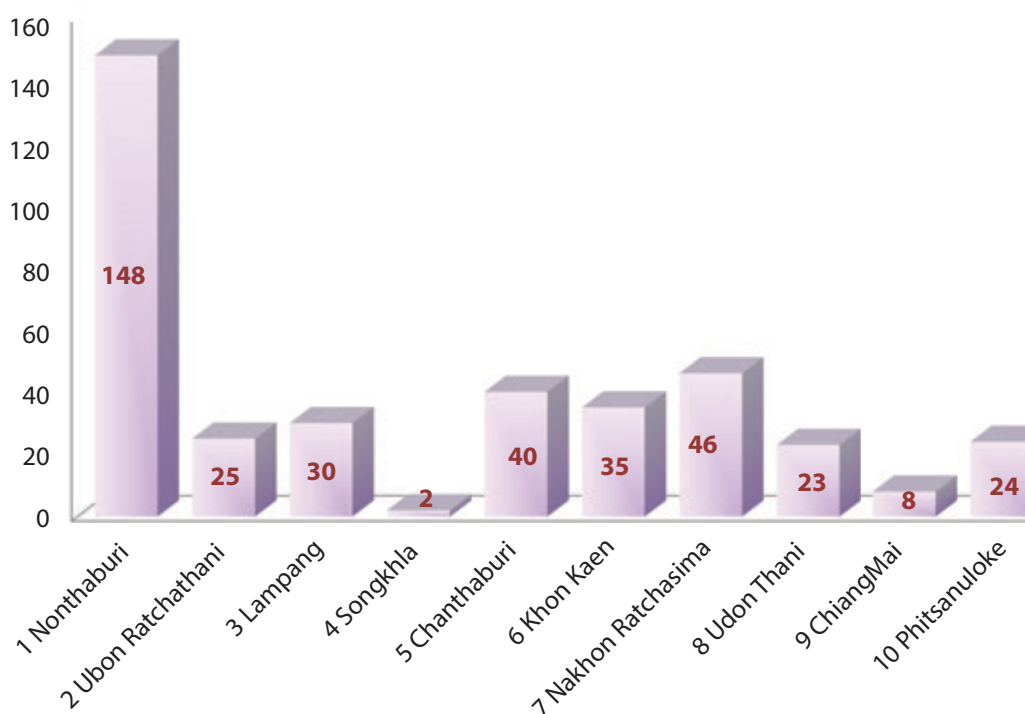
(2) The NBTC Office has conducted the checking and found that there were some radio and television broadcasting stations which caused interference of frequencies and they could be charged with offenses. The complaints have been filed to the office of the National Police. In 2013, there were 451 stations charged and another 851 stations were still in the process of filing complaints (data as of December 16, 2013). The offenses were: Owning radio communications equipment for which permission has not been granted according to Section 6; the establishment of radio stations without license according to Section 11 of the Radiocommunications Act of 1955; and the offenses in using spectrum for broadcasting without license according to Section 66 of Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2551 (2008).

(3) The NBTC Office has conducted checking and found that there were community radio stations which interfered with aeronautical radio in 2013, as shown in Chart 29.





**Graph 29: Number of Community Radio Stations which Interfered
with Aeronautical Radio in 2013**



Source: Group of Regional Affairs

(4) The NBTC Office has organized a joint meeting with Thaicom Public Co., Ltd on December 9, 2013 on frequency interferences to Thaicom satellite channels which started from end of November 2013. There was a frequency interference on Thaicom5 satellite which was rented out for on-air services and for 20 television channels broadcasting through satellite, such as free free-to-air television through set-top boxes using satellite (Channel 3, Channel 5, Channel 7, Modern Nine and Thai PBS). At present, it was discovered that there were still such interferences. The NBTC has ordered the 14 regions all over the country to check and find the direction of the signals and the frequency interference of Thaicom satellites until there was a desist order. Those who have caused these interferences were to be charged with offenses in accordance with Radiocommunication Act of 1955 and other related regulations.





The Research and Development Fund for Radio and Television Broadcasting and Telecommunications Services for Public Interest

The implementation structure of the research and development fund for radio and television broadcasting and telecommunications Services for public interest.

The research and development fund for radio and television broadcasting and telecommunications services for public interest (the Fund) is a fund that was established in accordance with The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010), Section 4, with the Fund Management Committee consisting of the Chairman of NBTC, Permanent Secretary of the Prime Minister's Office, Secretary-General of the National Economic and Social Development Board, Director-General of Comptroller's Department, Director of the National Electronic and Computer Center, five experts who were knowledgeable and skilled in related fields, and the Secretary-General of NBTC, totaling 11 persons, who were members of the committee and they were responsible for making recommendations in managing the Fund. They managed expenses in accordance with its objectives and obtain approval from NBTC. Their duties also included setting regulations related to the maintenance, expenditure, bookkeeping and accounting system for the Fund. There was a work group on the research and development fund for radio and television broadcasting and telecommunications services for the public interest, which was an institution under the NBTC Office to perform administrative functions for the Fund. It has started its work on January 20, 2012. The structure of the fund is shown in Diagram 10.

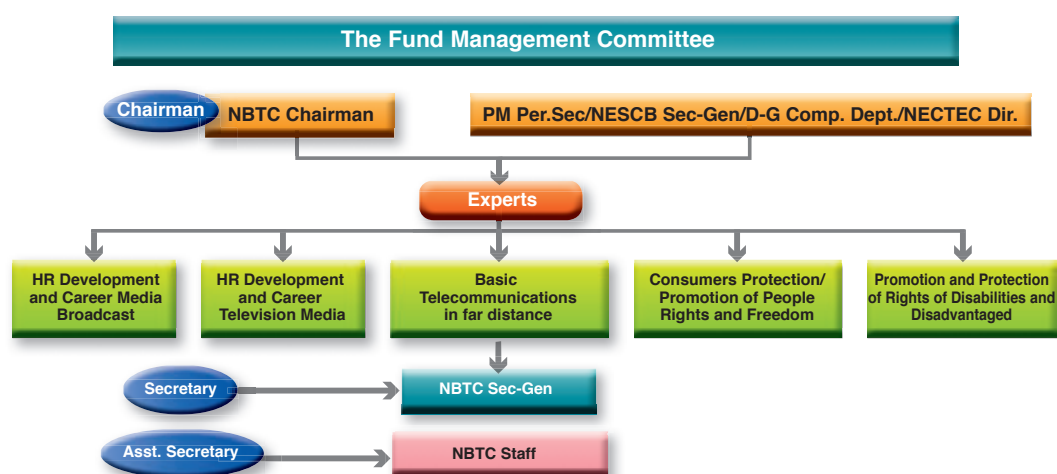


Chart 10: Structure of the Research and Development Fund for Radio and Television Broadcasting Services and Telecommunications Services for Public Interest





Management committee of the research and development fund for radio and television broadcasting and telecommunications services for public interest

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| 1. Air Chief Marshal Thares Punsri
(Chairman of NBTC) | Chairman |
| 2. Spc. Prof. Tongthong Chandrangsu
(Permanent Secretary) | Member |
| 3. Mr. Charnvit Amatamatuchart
(Representative of Secretary General of NESDB) | Member |
| 4. Mr. Manas Jaemveha
(Director-General, Comptroller's Department) | Member |
| 5. Dr. Pansak Siriratchapongse
(Director of National Electronic and Computer Technology Center) | Member |
| 6. General Thongchai Keursakul
(Expert in human resources development and media broadcasting) | Member |
| 7. Assoc. Prof. Dr. Pana Thongmeekom
(Expert on television medium) | Member |
| 8. Prof. Dr. Teeravut Boonyasophon
(Expert on telecommunications services orinremote areas, including telecommunications services for the disadvantaged) | Member |
| 9. Mr. Nantapol Kanjanawat
(Expert on consumers' protection and promotion of rights and freedom) | Member |
| 10. Mr. Torpong Selanond
(Expert on protection of consumers' rights and promotion of rights and freedom) | Member |
| 11. Mr. Takorn Tantasith
(Secretary General of NBTC Office) | Member |

Duties and Responsibilities of the Fund Management Committee

According to Section 55 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010), the duties and responsibilities of the Fund Management Committee are as follows:

1. Management of the Fund
2. Give recommendations related to the allocation of fund for making payment according to the objectives and to request approval from NBTC
3. Set regulations related to the maintenance, expenditure, bookkeeping and accounting system of the Fund
4. Provide details of the allocation of funds and its implementation to the public through electronic media of the Office of NBTC





The Management of the Research and Development Fund for Radio and Television Broadcasting Services and Telecommunications Services for Public Interest

In order to perform the duties as set in Section 55 of the Fund Management Committee, the strategic plan was used as a tool in management and there was a sub-committee which served as a mechanism to support implementation. It can be summarized as follows:

1. Strategic Plan 2012-2016

1.1 Vision

To be a push mechanism and support to the people to benefit from the broadcasting, television and telecommunications services for public interest as a whole, with fairness and transparency, strengthen the community and entrepreneurs, encourage the upgrading of industry standards and other related industries and develop professional and ethical standards.

1.2 Mission

1) Manage the Fund and allocate funding for people to have access to services in broadcasting, television and telecommunications services, develop communication resources, research and development and including knowing media, technology frequency, information technology, support the institution that performs the duty of setting ethical and professional standards or legal professions in broadcasting and television services, consumers' protection for broadcasting, television and telecommunications services and support the implementation of legal professions in safety media development fund and creates cost effectiveness and efficiency as recommendations for NBTC's consideration

2) Give advices and recommendations on the management and allocation of funds to NBTC

3) Monitoring and evaluation of the project that received funding support

4) Disseminate information on allocation of funds and implementation to the public through electronic media of the NBTC Office

5) Provide maintenance, payment, book keeping, accounting system, financial report and provide financial and account checking to achieve transparency and accountability

1.3 Objectives

1) All people have access to services and benefits from broadcasting, television and telecommunications services, especially the disadvantaged, disabled and elderly.

2) Support and encourage community and entrepreneurs to provide services in broadcasting, television and telecommunications services for public interest.





3) Support research and develop media resources and industry continuously for broadcasting, television and telecommunications services in order to provide quality services for the people

4) Develop human resources in broadcasting, television and telecommunications services in order to upgrade the profession and ethical standards

5) Promote and support entrepreneurs and the public to participate in activities in broadcasting, television and telecommunications services that are creative and beneficial to the society and the nation

6) Promote and support all consumers' protection target groups in broadcasting, television and telecommunications services

7) Support the implementation of legal professions related to media safety and create initiatives as appropriate

1.4 Strategy

1) Strategy on promoting and supporting the development of broadcasting, television and telecommunications services that is modernized and provides coverage for all areas. Provide full protection to all consumer provide fast information data services, access to services with fair cost, make use of media services available to upgrade the quality of life and in making businesses. Allocate fund in accordance to Section 52 and Section 53 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010)

2) Strategy to support broadcasting, television and telecommunications services to enable the people to receive information through radio, television and is able to communicate through telephone, including broadband internet in all areas throughout the country

3) Strategy in promoting research and development in broadcasting, television and telecommunication services in order to enable people to have quality and efficient services

4) Strategy on the development of human resources in broadcasting, television and telecommunications services to be updated with the changes of modern media technology, including being able to select media that will be beneficial to the way of living and career

5) Strategy to strengthen the development of the management of the Fund to be modernized and professional in order to be able to support efficient implementation, in accordance with The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010)





2. Implementation framework for 2013

2.1 Objectives

To promote and support implementation according to objectives of the Fund as per Section 52 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010) and according to the framework of the budget allocation for 2013 with efficiency and is beneficial to the general public as a whole

2.2 Target

- 1) To establish policy framework, notification, criteria, procedures related to expenditures and budget allocation of the Fund, as well as to establish project monitoring and evaluation framework for project that receives funding support
- 2) To promote and support the Fund according to its objectives
- 3) To provide maintenance, payment, book keeping, accounting system and financial reporting and enable financial and account checking for transparency
- 4) To strengthen the development of the Fund to be modernized and to have a work system that is professional

2.3 Budget Framework

- 1) To plan budget allocation for projects requesting support from the Fund (Project Type 1) within the budget framework of not more than THB150 million, which is in accordance with the objectives of the Fund for receiving support under Section 52 (1), (2), (3) and (4)
- 2) To plan budget allocation for projects following the guidelines for receiving support for the development of radio, television and telecommunications services for 2013 (Project type 2 as prescribed by the Fund Management Committee) which is within the budget framework of not more than THB 100 million, and is in accordance with the objectives of the Fund for receiving support under Section 52 (1), (2), (3) and (4)
- 3) To promote and support the plans or projects that coincide with the objectives of the Fund under the plans and projects framework as recommended by theNBC and the NTC as well as the NBTC.





Efficiency Management of the Research and Development Fund for Radio and Television Broadcasting and Telecommunications Services for Public Interest

The performance of the Fund Management Committee has been operating under the evaluation framework as follows:

1. To issue the Notification and related criteria, as well as the guidelines for monitoring and evaluation of the projects that received funding support, in order to use it as guidelines for maintenance and for making payment and as guidelines on criteria, procedures as well as conditions for payment of the fund, to achieve objectives of the Fund and to be beneficial to the public. The activities can be divided into 3 areas as follows:

1.) The Announcement of the Fund Management Committee on budget framework, allocation procedures and the submission of request for receiving funding support for 2013, as announced on January 16, 2013.

2.) The review and improvement of the Notification of the Fund Management Committee on rules, procedures and conditions of payment, monitoring and evaluation and to establish budget framework for receiving funding support for the projects in 2014, to NBTC for consideration. It was expected that the notification can be published in the Royal Gazette in March 2014.

3.) The Notification of the Fund Management Committee on budget framework, procedures for allocation and submission of request for receiving support from the Fund for 2014. It is expected that the notification can be made in April 2014.

2. The implementation for promoting and supporting the Fund in 2013 as per Section 52 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010), making it coincide with private sector's policy and the policy of the NBTC's three Master Plans and to give benefit to the public in a concrete way for broadcasting, television and telecommunications services, in a sustainable way and coinciding with the objectives of the Fund. The performances are as follows:

1) In 2013, there are 225 projects (Project type 1) submitted to NBTC, requesting for funding support, totaling to THB2,386.79 million and is categorized according to the objectives of Section 52, as shown in Table 73 as per below:





**Table 73: Implementation of Projects Requesting Funding Support from the Fund
(Project type 1)**

Legal Objectives	Broadcasting and Television Businesses		Telecommunications Businesses	
	No. of Projects	Budget (in THB million)	No. of Projects	Budget (in THB million)
52 (1)	41	297.62	13	33.65
52 (2)	35	367.17	54	647.40
52 (3)	38	225.63	7	293.14
52 (4)	26	179.37	11	41.81
	140	1,069.79	85	1,317.01

Source: Group of Research and Development Fund for Public Interest

In screening the projects based on requirements, there were 48 projects that met the basic requirements, totaling to THB564.12 million. There was a remaining balance of 177 projects, totaling to THB1,822.67. Out of these projects, the Fund Management Committee has given consideration for project funding support to 18 projects, totaling to THB78.15 million and the committee did not approve funding for 159 projects, totaling THB1,744.52. The 18 projects that have received funding support are for:

- 11 projects for broadcasting and television services
- Seven projects for telecommunications services

The Fund Management Committee has been given approval by NBTC to provide funding support for 10 projects to outside individuals who have requested funding support in 2013, totaling to THB32.53 million.

2) The results of the promotion and support plans for projects on the development of radio, television and telecommunications services are as follows:

(1) The Fund Management Committee has announced the framework of projects based on guidelines of expenditures for Project Type 2 (the projects which the Fund Management Committee has announced) in 2013 totaling eight projects that were within the budget framework that has been received approval by NBTC of THB100 million. However, Project Type 2 implementation could not be carried out as planned since there were still some unclear issues with regards to the duties of the Fund Management Committee and thus a delay in implementation.

(2) The implementation of projects that coincided with the objectives of the Fund, responding to the government's policy and NBTC's plans and they consisted of the following:





- Broadband internet service with Wi-Fi technology at no cost to benefit the public by ICT Ministry. The 13/2012, 14/2012 and 15/2012 meetings of the Fund Management Committee have approved the broadband internet with Wi-Fi technology at no cost for the benefit of the public by ICT Ministry with a total budget of THB950 million. This coincided with the plan that everyone would receive telecommunications services as is established in Section 52 (1) which also was in accordance with what has been presented to the Cabinet. It was expected that the benefits gained were: The general public could have access to wireless internet network in public areas, government offices and educational institutions, help reduce the problem of inequality in having access to digital information, increase efficiency in work for SME entrepreneurs and the general public can develop capabilities in ICT. This will help prepare Thailand to develop to become the hub of information technology and future communications, increase international competition capabilities, elevate ranking for Thailand to be well prepared for ICT both at the world and regional levels. In 2013, there was a delay in the project status as set by scope of TOR, especially for the ICT process in employing a service agency. ICT tries to speed up implementation and to find ways to solve problem that may further delay the process. It is expected that project implementation will be completed according to the time set.

- The plans or project that the Commission on Telecommunications Services has submitted to the Fund Management Committee, five projects have been given approval with one operational plan, within the budget of THB1,028.91 million, and THB495.76 million in 2013, with a continuation of the budget allocation for 2014-2017, totaling THB533.15 million. In 2013, the USO operational plan was in the process for implementation and disbursement.

- The plan or project of the Commission on Broadcasting and Television Services as announced in the master plans for broadcasting and television for 2012-2017 is in the process of preparing a support plan to enable the people to have access to broadcasting and television services including other plans related to the Fund. Therefore, there is no funding support in 2013.

3. To implement maintenance, make payment, bookkeeping, accounting system, financial report and checking of finance and accounting to ensure transparency. In 2013, the Fund has an income of THB5,973.33 million, increased by THB3,083.53 million as compared to 2012 which has an income of THB2,889.80 million. The income in general came from contributions from those who have license for telecommunications services (USO fee) and the interest earned from bank savings. In addition, there is a disbursement of funds in 2013 for projects that met the objectives of the Fund, totaling THB952.10 million, which was 15.94 percent of the





total income. In summary, the balance as of December 31, 2013 had a total assets of THB11,987.33 million, increased from 2012 by THB5,971.24 million. Based on the implementation of 2013, it is found that the financial status is highly secured with a revolving fund in 2013 of twelve times and in 2012, it was 4,891 times. This made the liquidity of the Fund sufficient to accommodate the expenditures plan that will occur in the future.

The maintenance of the Fund was through savings in governmental and private banking which is low-risk. Though some risk was still seen, especially the legal restrictions related to the protection of savings which is not totally covered. In addition, the Fund has increased each year. In 2013, there was a savings as high as THB8,844.57 million, which was higher than 2012 that had a savings of only THB3,652.96 million. However, putting the money in the bank did not create liquidity since the bank could not accept big amount of savings and to give high rate interest. Also, there was a risk for interest rate that is quite fluctuating. In 2013, the Fund received an interest rate of 3.15 percent, which was reduced from 2012 with an interest rate of 3.15 percent. This was in effect of the adjustment of lower interest rate following the Financial Committee's policy and the delay of the country's economy.





Project Monitoring (Financial Support from the Fund)

In order to strengthen the development of the fund to become modernized and has a good professional working system that can support the implementation of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010) with efficiency, the implementation are as follows:

1. Development and improvement of the information system that supports the management of the project in the collection of project data and to use it as a data base to support decision-making for managing the Fund in the future.

2. Development of knowledge through organization of academic seminar to promote access to technology that facilitates conveniences for the disabilities, elders or the disadvantaged for sustainability in the representative provinces of the four regions, i.e. Trang, KhonKaen, Chiang Mai and Bangkok. This was to compile data on problems and constraints and recommendations that coincide with reality and to use these data to set directions for promoting and supporting the fund in a concrete way that would respond to the needs of the target groups. There were 459 participants from the four regions, consisting of the blind, the deaf, disability by body or movement and mental disability or learning about problems and constraints in implementation.

Implementation Problems and Constraints

For monitoring of the efficiency and effectiveness of implementation for 2013, it was the first year of implementation that started from January 20, 2012. The implementation was thus only to establish framework, directions, guidelines for implementation, setting rules and regulations, setting criteria, budget allocation based on activities, developing human resources and having technology that is essential for implementation, including the study of problems and constraints and establishing guidelines for implementation in 2014. The success of the project still could not be evaluated since the project has not been implemented as yet. Therefore, the Fund Management Committee was successful in setting framework within the time set and achieving objectives with efficiency and effectiveness by law.





Implementation Framework for 2014

1. Objectives

To promote and support implementation according to objectives of the Fund as per Section 52 of The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunication Services B.E. 2553 (2010) and to implement according to the framework of budget allocation for 2014 with efficiency and benefiting the public as a whole.

2. Target

- 1) To review and establish policy framework, to make announcement, criteria and procedures related to expenditures and budget allocation of the Fund, as well as the framework for monitoring the projects that received funding support based on its objectives.
- 2) To promote and support the Fund in accordance with the objectives of the Fund.
- 3) To provide maintenance, payment, book keeping, accounting system, financial reporting and checking of financial and accounting for transparency.
- 4) To disseminate knowledge related to direction for promoting and supporting the Fund in a concrete way and to strengthen the development of fund to be modernized and to have a system for working in a professional way.

3. Budget framework

To promote and support the Fund for Project type one as per the Fund Management Committee's Notification on criteria, procedures and conditions of payment within the total budget of THB500 million, to promote and support the funding of projects as per objectives in Section 52 (1), (2), (3) and (4). Each objective should not exceed THB125 million.

4. Important projects

- 1) Project requesting promotion and support from the Fund (Project type one) within the budget framework of THB 500 million.
- 2) Project in accordance with the guidelines for requesting support for broadcasting, television and telecommunications services as set by the Fund Management Committee (Project Type Two)
- 3) Project in accordance with implementation plan for establishing the basic telecommunications services for all and services for the society (USO)
- 4) Plan or project according to NBTC's Master Plans.

5. Implementation mechanism

The implementation mechanism was the appointment of a sub-committee established by NBTC to help the Fund Management Committee in supporting implementation. There were two sub-committees consisting of the sub-committee for project screening and the sub-committee on management of project monitoring, including the NBTC Office to help in administration work and other work designated by the Fund Management Committee.





Efficiency and Effectiveness in Receiving Complaints

1. Receiving of complaints related to broadcasting and television services

The details of the efficiency and effectiveness in receiving complaints related to broadcasting and television services is seen in Section Three of NTC Performance Report for 2013 under the heading of consumers' protection strategy in broadcasting and television services.

2. Receiving of complaints related to telecommunications businesses

The details of the statistical data on the efficiency and effectiveness in receiving complaints related to telecommunications services is seen in Section Three of the NTC Performance Report for 2013 under the heading of consumers' protection strategy in telecommunications services for receiving complaints related to various types of telecommunications services, radio communications and other services, as per the following details:

1) Mobile phone services

In 2013, NBTC received complaints for mobile phone services type 1,987 cases, which is 81.53 percent out of the total complaints (2,437 cases). The highest three ranks complaints for mobile phone services are: Problem on standard services, problem of incorrect billing and problem on time limit in the use of pre-paid mobile phone services.

The efficiency in managing complaints for mobile phone services type is shown in Table 74.

Table 74: Complaints Handling Efficiency on Mobile Phone Services in 2013

Status of Management of Complaints for Mobile Phone Services	No. of Cases	Percentage (total no. of complaints)
Closed cases	997	50.18
Cases in process	990	49.82
Total	1,987	100.00

Source: Group of Telecommunications Consumers Protection





The issues of complaints and the number of cases of mobile phone service providers are shown in Table 75.

Table 75: Number of Complaints Categorized by Mobile Phone Services Issues in 2013

Issues/Complaints	No. of Cases
Access to services	11
Incorrect billing	406
Cancellation of services	67
Provision of incorrect information	158
Service fee is not according to maximum rat	186
Quality of service	57
Pre-paid mobile phone service	21
Additional services	191
Time limit in the use of services	319
Standard of services	514
Privacy information	10
Other services	47
Total	1,987

Source: Group of Telecommunications Consumer Protection

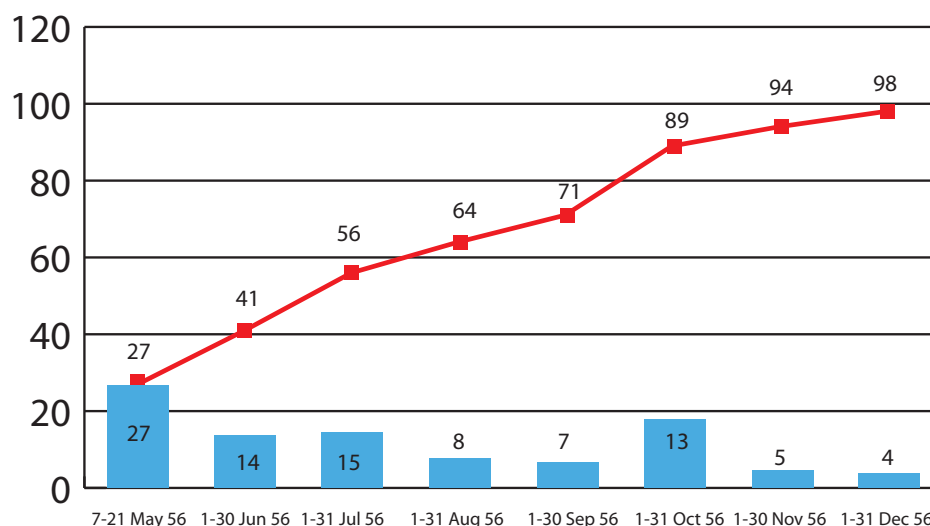
With regard to the problem-solving for complaints received for mobile telecommunications service with frequency 2.1 GHz, AWN was the first service provider to open problem-solving services for mobile telecommunications services which started on May 7, 2013. There were 98 cases of complaints received from May 7 to December 31, 2013 for mobile telecommunications services with international 2.1 GHz from the three licensed service providers. There were 53 complaints that were still in process and AWN service received the most complaints of 74 cases. For DTN, there were 19 cases of complaints and RF had five cases. AWN was found to have the most of complaints which may be due to the reason that AWN was the first licensed service providers to open for services and there was a total of more than 15.99 million numbers of subscribers at present, while DTN and RF had 8.31 million and 2.42 million subscribers, respectively.

Besides, there were four additional complaints from the months of November and December 2013, of which all cases were in process. There were three cases of complaints about the incorrect billing and one case for the speed of signal. The numbers of complaints for the different period of time are shown in Chart 30 (data as of December 31, 2013).





Chart 30: Statistics Data on Number of Complaints for International Mobile Telecommunications Services in 2.1 GHz



Source: The Work Group on the Tracking and Regulating the Universal Mobile Telecommunication Businesses on 2.1 GHz

2.) Internet Services

In 2013, the NBTC Office received 334 cases of complaints for internet services, which was 13.71 per cent of the total cases (total 2,437 cases). The highest three ranks complaints were on the issues of the cancellation of services, standard services and incorrect billing respectively.

The efficiency in managing complaints for internet services is shown in Table 76.

Table 76: Complaints Handling Efficiency on Internet Services in 2013

Status in Managing Complaints for Internet Service	No. of Cases	Percentage (Total Number of Complaints)
Closed Cases	231	69.16
Cases in Process	103	30.84
Total	334	100.00

Source: Group of Telecommunications Consumer Protection





Details of the issues of complaints and number of complaints for internet service providers are shown in Table 77.

Table 77: Number of Complaints Categorized by Issues of Complaints in 2013

Issues of Complaints	No. of Cases
Access to services	1
Incorrect billing	41
Cancellation of services	178
Incorrect information provided	1
Quality of services	31
Standard of services	75
Other services	5
Total	334

Source: Group of Telecommunications Consumer Protection

3) Fixed-line telephone service

In 2013, the NBTC Office received 75 cases of complaints for fixed-line telephone services, which was 3.08 percent of the total (total 2,437 cases). The highest three ranks were problems on standard services, incorrect billing and problems related to the cancellation of services.

The efficiency of managing complaints of fixed-line telephone services is shown in Table 78.

Table 78: Efficiency in Managing Complaints of Fixed-Line Telephone Services in 2013

Status of Managing Complaints for Fixed-Line phone Service	No. of Complaints	Percentage (Total Number of Complaints)
Closed cases	45	60
Cases in process	30	40
Total	75	100

Source: Group of Telecommunications Consumer Protection





The details and number of the complaints in regards to the fixed-line telephones is shown in table 79.

Table 79: Details and Number of Complaints on Fixed-line Radiocommunication in 2013

Issues of Complaints	Number of Complaints
Wrong charges	22
Service termination	6
Wrong information	2
Supplementary services	1
Standard of services	40
Personal rights and information	1
Others	3
Total	75

Source: Group of Telecommunications Consumer Protection

4) Radio communications service

In 2013, the Office of NBTC received 37 cases of complaints for radiocommunications services, which was 1.52 percent of the total (total 2,437 cases)

The efficiency in managing complaints of radiocommunications services type is shown in Table 80.

Table 80: Efficiency in Managing Complaints for Radiocommunication in 2013

Status of managing complaints for radio communications service	No. of Complaints	Percentage (Total Number of Complaints)
Closed cases	2	5.41
Cases in process	35	94.59
Total	37	100.00

Source: Group of Telecommunications Consumer Protection





The details of the number of complaints categorized by issues and the number of cases received by service providers of radio communications are shown in Table 81.

Table 81: Number of Complaints Categorized by Issues for Radiocommunication in 2013

Issues of Complaints	No. of Cases
Health safety standards	35
Others	2
Total	37

Source: Group of Telecommunications Consumer Protection

5) Others

The NBTC Office has received complaints for other services, such as mobile phone services, taxi service center, voice telecommunications services through internet (VOiP), Net Call services. There were four cases, which was 0.16 percent out of the total (total 2,437), categorized into three closed cases, which was 75 percent and one case was in the process, or 25 percent.

The details of number of issues for other services and the number of cases of complaints for service providers are shown in Table 82.

Table 82: Number of Complaints Categorized by Issues for Other Services in 2013

Issues of Complaints	No. of Cases
Charge fee for follow-up of debts	2
Standard services	1
Being charged for service fee	1
Total	4

Source: Group of Telecommunications Consumer Protection





In addition, in 2013 the NBTC Office received 28,268 cases of complaints and issues on enquiry of information related to the monitoring of broadcasting, televisions and telecommunications services through Call Center 1200 as is shown in Table 83.

Table 83: Number of Complaints Through Call Center 1200 in 2013

Issues of Complaints	No. of Cases
Complaints	744
Enquiries	27,428
Comments	96
Total	28,268

Source: Group of Feasibility and Proceeding Premotion for Public

For issues on services related to spectrum in 2013, there were 2,439 cases in total as is shown in Table 84.

Table 84: Number of Spectrum Used in 2013

Issues of Complaints	No. of Cases
Complaints	280
Enquiries	2,156
Comments	3
Total	2,439

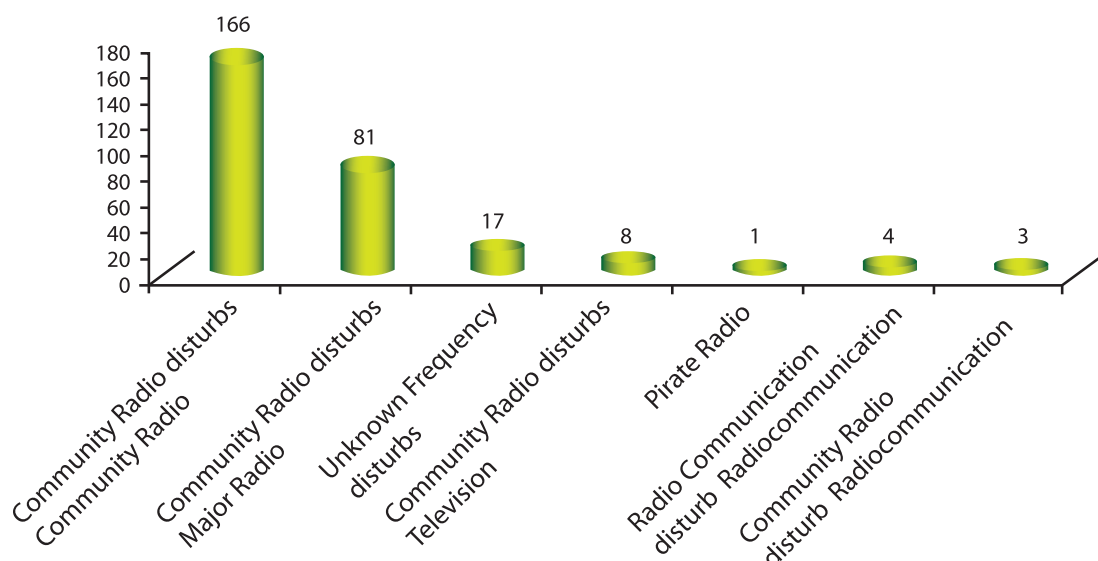
Source: Group of Feasibility and Proceeding Premotion for Public





There were 280 cases of complaints received through Call Center 1200 related to the use of frequencies in 2013, which consisted of details as shown in Chart 31.

Graph 31: Number of Issues of Complaints related to the Use of Spectrum in 2013



Source: Group of Feasibility and Proceeding Premotion for Public

The NBTC Office has joined with service providers of telecommunications services of mobile phones to enable the general public to send SMS messages in filing cases of complaints related to the monitoring of broadcasting, television and telecommunications services to Call Center 1200 from February 18, 2013 with no cost to the callers. This was to help provide convenience and increase the channels for complaints for the public users of services.



Section 5

The Report of Market Environment and Competition in Broadcasting and Telecommunication Services



The Report of Market Environment and Competition in Broadcasting and Telecommunications Services

1. The Market and Competition of Broadcasting and Television Services

The structure of television services industry in Thailand in 2013 still has a basic structure of an analog system of radio television signal in terrestrial system. It was found that, for this year, Thai people views free TV or terrestrial television of six stations at an average of 240 minutes per day, i.e. Thai Television Channel 3, Royal Thai Army Radio and Television Channel 5, Bangkok Broadcasting TV Channel 7, Modern 9 TV, National Broadcasting Services of Thailand (NBT) and Thai PBS, including cable and satellite TV. For free TV Stations, cable and satellite TV, the proportion of advertising value is 51 percent and 9 percent, respectively.

However, in 2013, the broadcasting and television services are moving towards an important change once more. Since the change of black and white broadcasting to color TV, there has been a change of radio television signal system from an analog to digital system. The Broadcasting Master Plan of 2012-2016 stated that the target is to implement the digital system of radio broadcasting and radio television in Thailand within four years, through the spectrum auction for providing television service through digital system for services at a national level. The auction was conducted in December 2013 for four sectors, with a total of 24 licenses. This service has, therefore, started in 2014 resulting in changes in television broadcasting market of many stations. This provided an opportunity for public access to communications and various information equally and with increased quality.

Besides, with the rapid development of technology media, the market in broadcasting and television services show continuous changes in trends, such as the change in technology media resulted in a much clearer radio television signal, such as the High Definition Television (HDTV) or the 4KTV, as well as 8K TV in the future.

As for radio broadcasting, it is noted that at present there are 36 primary FM radio frequencies (87.5 MHz-107.0 MHz) in Bangkok and metropolitan areas, with an advertising value of 5 percent out of the total advertising value for all media in 2013.

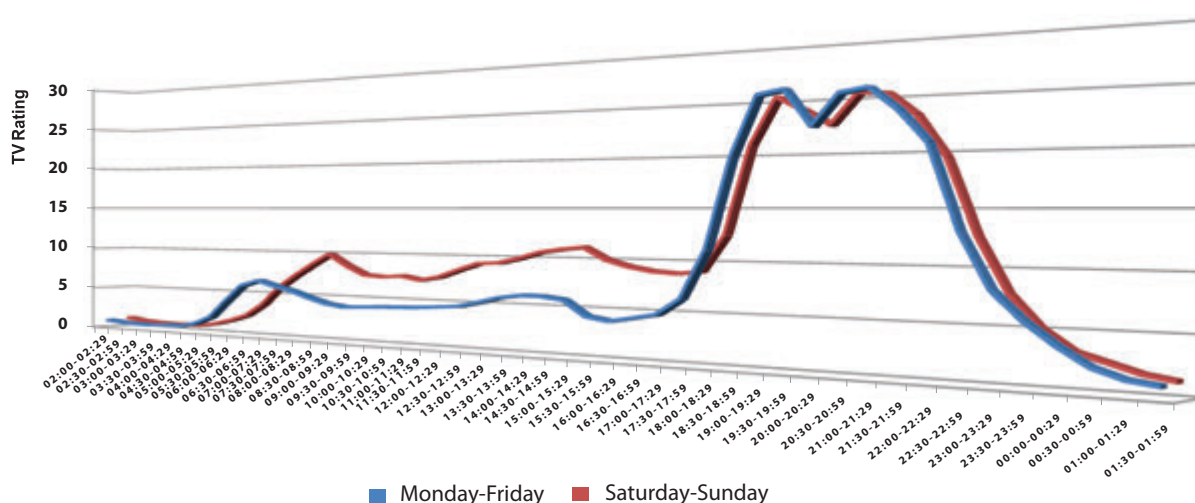




1) Terrestrial Television Analog System (Free TV)

In 2013, Thai people viewed terrestrial analog television (six free TV stations) at 191 minutes per day. The air time that most Thai people viewed at the most, from Monday to Friday, is between 19.00-20.00 hrs, and from 20.00-21.30 hrs. As for Saturday and Sunday, it is between 19.00-20.00 hrs. and 20.30-21.30 hrs, which is the airtime for evening news and after news dramas. During Saturday and Sunday, it is observed that people watched television from morning to evening more than Monday through Friday (terrestrial television data collection, cable and satellite TV). This is from Nielsen's data collection for population aged group of four years up and Nielsen's radio data collection for population aged group from 12 years up, as is shown in Chart 32:

Graph 32: Rating for Terrestrial Television (Free TV) Based on Time



Source: Nielsen

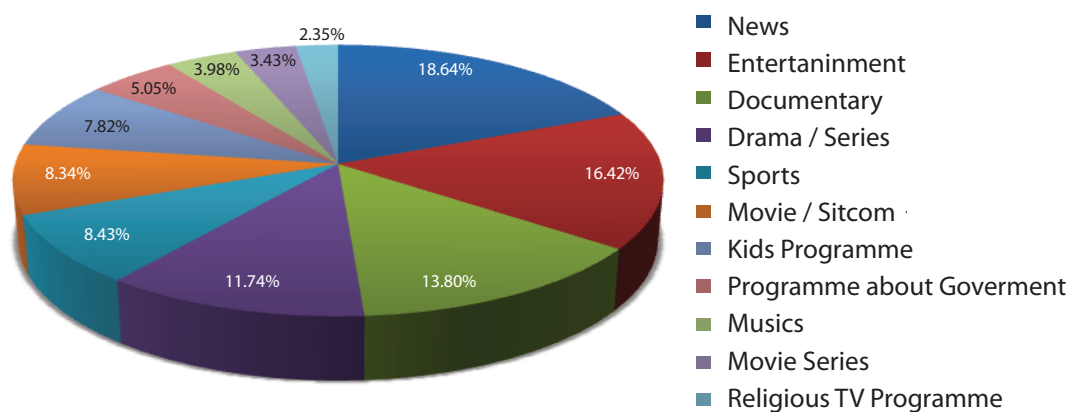
(1) TV Viewers by Type

The TV program is categorized into 11 types, i.e. long movies, drama series, movies or one-episode dramas, news, programs related to the Government, documentary films, entertainments, music, children's program, sports and religious programs. The review of viewers for all programs under free TV for the whole year shows that program with most viewers is news, which is 18.64 percent. The 2nd rank is entertainment programs which are game show, reality program, beauty contest, talent show, fashion show and variety shows, which totaled to 16.42 percent, and documentary programs which are cooking, travel, family related program, environment, agriculture, health as well as culture is 13.80 percent. The program with the least viewers is long movies, which are Chinese, Japanese and Korean movies and religious program, which are religious ceremonies and important days. The proportion of viewers of the program depends on the kind of program that is on air. For example, the reason for high viewers for news is because different channels provide lots of news information which are presented more frequently than others, as is shown in Chart 33.





Graph 33: Proportion of Viewers Based on Various Types of TV Programs

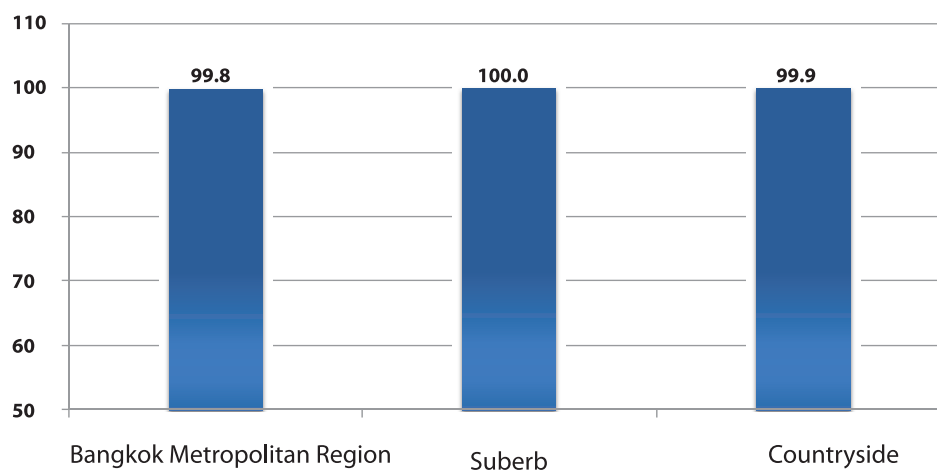


Source: Group of Broadcasting Policy and Research

(2) Television Viewers Based on Residential Zones

Data collection shows different viewers per month in 2013, when compared to the population group of such residential areas, it is found that there are 99.8% viewers in Bangkok and metropolitan areas, while in provincial municipality areas and outside of municipality areas, there are 100 percent and 99.9 percent viewers respectively, as shown in Chart 34.

Graph 34: Proportion of Viewers for Free TV Program in 2013 Based on Residential Zones



Source: Group of Broadcasting Policy and Research

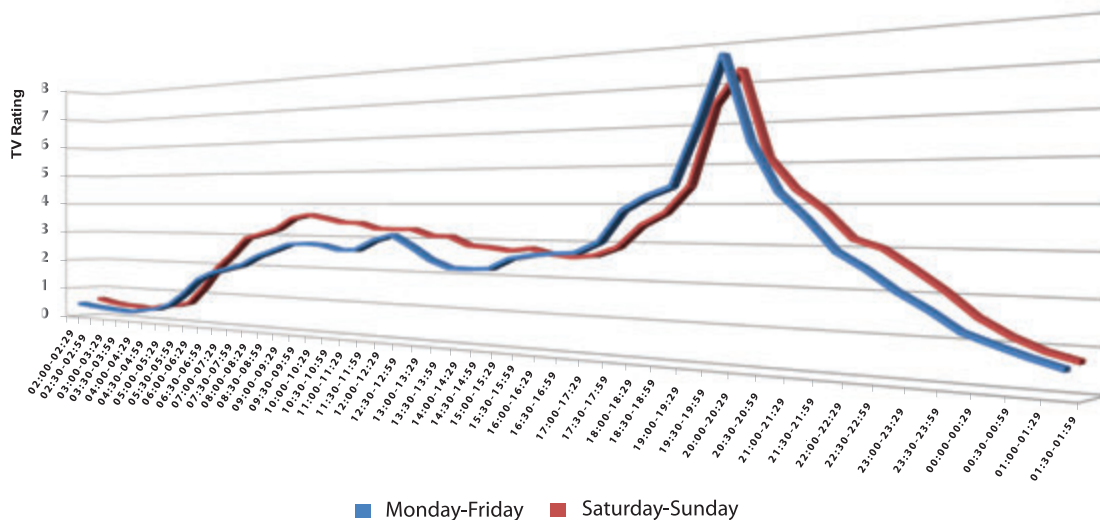




2)Cable and Satellite Television

In 2013, there are Thai viewers of 119 minutes per day for cable and satellite TV. The airtime that have most viewers during Monday to Friday is between 20.00-20.30 hrs. and for Saturday and Sunday, the time is between 19.30-20.30 hrs, as shown in Chart 35.

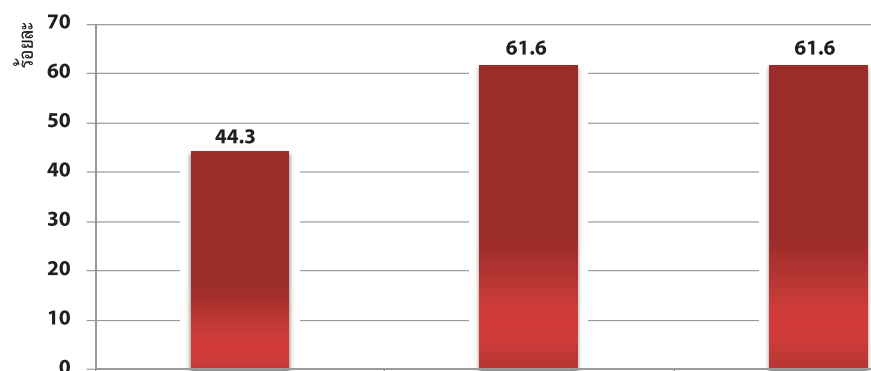
Graph 35: TV Rating for Viewing Cable and Satellite TV Based on Air Time



Source: Nielsen: Viewers based on residential areas

The review of the number of viewers of cable and satellite TV based on residential areas per month shows that there are viewers in Bangkok and metropolitan areas by average of 44.3 percent per year, while the provincial municipality and outside of municipality areas, the proportion of viewers is 61.6 percent for both areas, as shown in Chart 36.

Graph 36: Proportion of Viewers Based on Residential Zones for Cable and Satellite TV in 2013



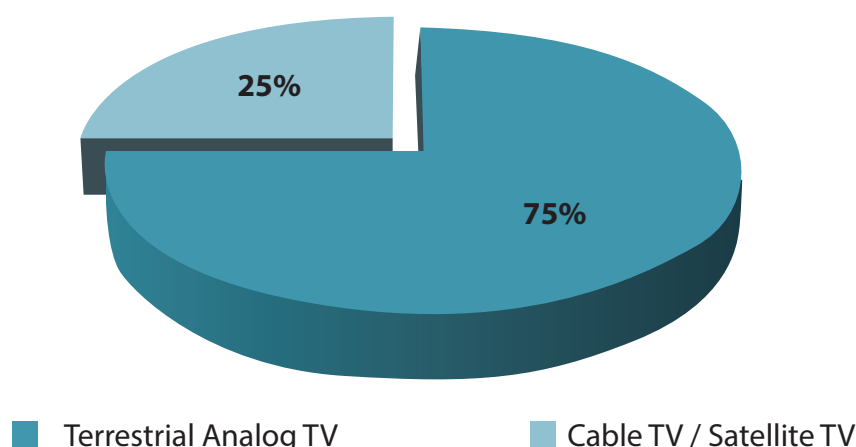
Source: Group of Broadcasting Policy and Research





However, when comparing the proportion of viewers per minute in terrestrial television for analog system or free TV, cable and satellite, it is shown that the proportion of viewers for free TV is much higher. The monthly average for terrestrial television in analog system and cable and satellite TV is 75 percent and 25 percent respectively, as shown in Chart 37.

Graph 37: Viewers Proportion of Different Types of Program in 2013



Source: Media Agency Association and Thailand Media Business

3) Broadcasting Services

For radio frequencies of 36 stations on FM frequencies (87.5 MHz-107.0 MHz) by year-end 2013 in Bangkok and metropolitan areas, the time with most listeners is between 09.00-10.00 hrs. Second is between 17.00-18.00 hrs. and the least listeners is between 03.00-05.00 hrs. The most listeners during the days are on Friday and Monday.

Besides, Nielsen's survey revealed that there are 34 million people who have household radios, averaging to 59% of the total population of 12 years old aged group.

4) Market Value for Broadcasting and Television Services

The overall pictures as studied by Nielsen and the Media Association Agency and Media Businesses in Thailand, revealed that television service has an increased growth of advertising value as compared to 2013 advertising value. For free TV, the growth rate is 1.68 percent while for cable and satellite TV, the market growth rate value is much higher at 22.79 percent. Considering the proportion of total advertising value per year, the free TV proportion decreased by 1 percent while cable and satellite TV increased by 2 percent.

For broadcasting service, the advertising value declined slightly or even with no changes both in terms of growth rate during the year and the proportion of advertising value when compared to the total value of the same year, as is shown in Table 85.




Table 85: Advertising Value According to Various Media

	2011		2012		2013		Change 2012-2013
	THB million	%	THB million	%	THB million	%	%
Analog free TV	62,238	52	68,105	52	69,249	51	+1.68
Cable/Satellite TV*	7,496	6	9,653	7	11,853	9	+22.79
Radio**	5,918	5	6,349	5	6,321	5	-0.44
Other media	43,574	36	47,024	36	48,088	35	+2.26

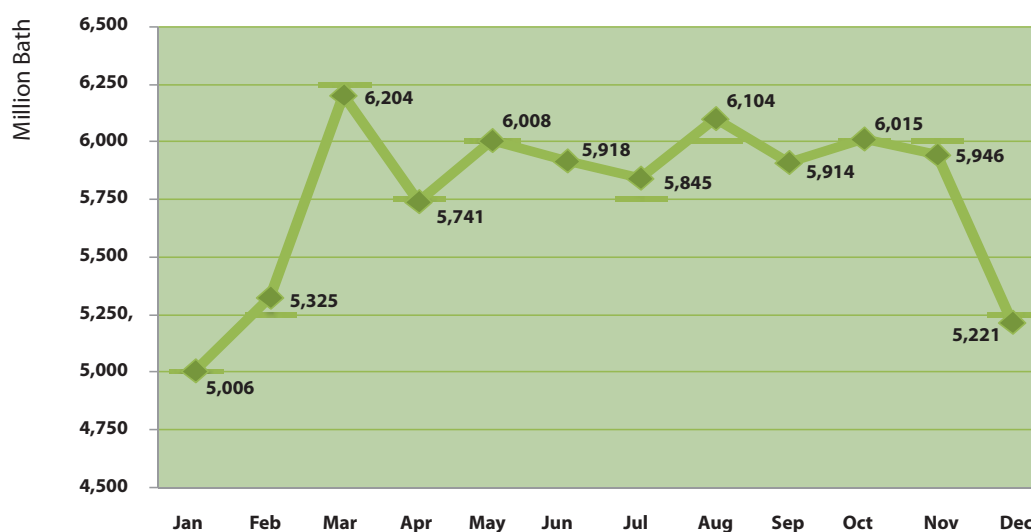
*Excluding True Vision

**Excluding in-house advertising of respective media

Source: Nielsen and Media Agency Association and Thailand Media Business

(1) Market Value of Analog Terrestrial Television(Free TV)

The advertising value for free TV television stations in 2013 was THB69,248.79 million and there is a tendency for continued increase during the first three months, in which it has reached its highest rate during the year in March, totaling to THB6,204 million. Later it became unstable until it reached the lowest value of 12 percent during the month of November-December 2013, as shown in Chart 38 and as seen in Table of Television Advertising Revenue for free TV based on the kind of products or services, as is shown in Table 86:

**Graph 38: Television Advertising Revenue for All Free TV Stations
from January-December 2013**


Source: Group of Broadcasting Policy and Research





Table 86: Income from Advertising on Free TV by Merchandise or Services

Rank	Kind of Advertising	Advertising Value (in million)	Rank	Kind of Advertising	Advertising Value (in million)
1	Non-alcoholic beverage	5,454.49	28	Electronic appliances besides picture and sound	800.17
2	Cosmetics/skin care products	5,442.50	29	Agricultural products (used in industry)	699.89
3	4-wheel vehicle	5,088.68	30	Travel and tour	638.86
4	Communication	4,363.75	31	Alcoholic drinks	598.24
5	Government & Organizations	3,467.61	32	Computer	571.91
6	Milk products and substitute milk products	3,201.10	33	Motorcycles & bicycles	555.00
7	Food consumption	2,987.28	34	Credit and debit card	543.92
8	Hair products	2,903.41	35	Company or product advertised by variety of products	399.68
9	Household cleaning products	2,522.81	36	CD/DVD (music and movies)	361.51
10	Hygiene Products	2,429.32	37	Money Institution (not banking institution)	281.64
11	Supplement food	2,238.46	38	Websites	272.11
12	Kinds of entertainment and relaxation	2,099.04	39	Educational institution	270.83
13	Insurance institution	1,949.38	40	Engine oil	264.97
14	Drugs	1,779.98	41	Pesticides products	263.50
15	Oral health care products	1,741.96	42	Household products	257.45



Rank	Kind of Advertising	Advertising Value (in million)	Rank	Kind of Advertising	Advertising Value (in million)
16	Restaurants	1,607.97	43	Automobile accessories	225.14
17	Bank	1,489.64	44	Electric appliances related to picture and sound	205.51
18	Sale and services stores	1,280.17	45	Car Distributor/Car Rental	187.34
19	Condiments	1,193.24	46	Animal food and products	186.92
20	Construction materials	1,108.87	47	Tire	181.20
21	Media and market	1,100.27	48	Shoes and shoe products	177.17
22	Other products not listed in this sector	941.03	49	Office supplies	162.73
23	Fuel	909.21	50	Personal accessories	136.71
24	Bread/chocolate wafer/ crispy bread	903.69	51	Clothing	114.76
25	Cosmetics	837.22	52	Photo products	113.27
26	Snacks	830.83	53	Weight loss products	78.68
27	Property	809.02	54	For transportation	19.33

Source: Group of Broadcasting Policy and Research

After reviewing the advertisements for products and services, it is noted that the highest advertising value is for non-alcoholic beverage products with a value of THB5,455 million. Second is advertising value for cosmetics/skin care which has about the same value at THB 5,443 million. The third is advertising value for cars and trucks with a total value of THB5,089 million. The combined three advertising values came to about 23 percent of the total cost of advertisement for television.

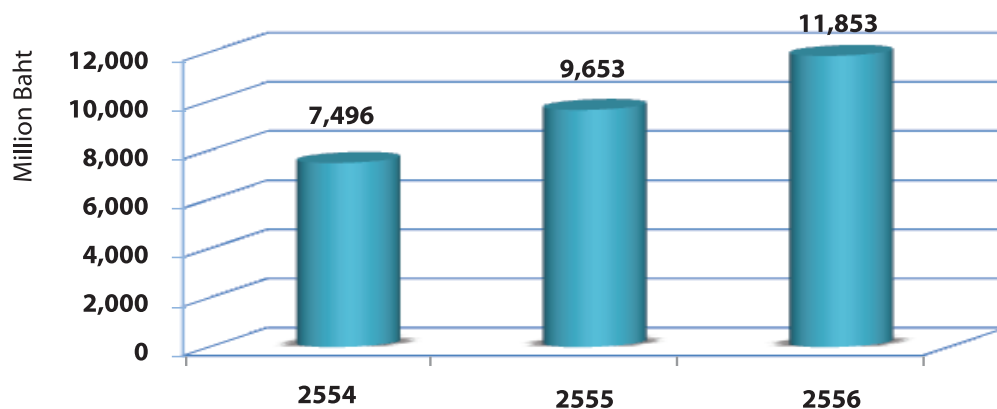




(2) Market Value for Cable and Satellite TV

The advertisement for cable and satellite TV has a tendency for growth each year. This year, the total value is THB11,853 million, which is an increase from last year of THB 2,200 million or a growth rate of 23 percent in 2013, as shown in Table 39

Graph 39: Advertising Value through Cable and Satellite TV during 2011-2013

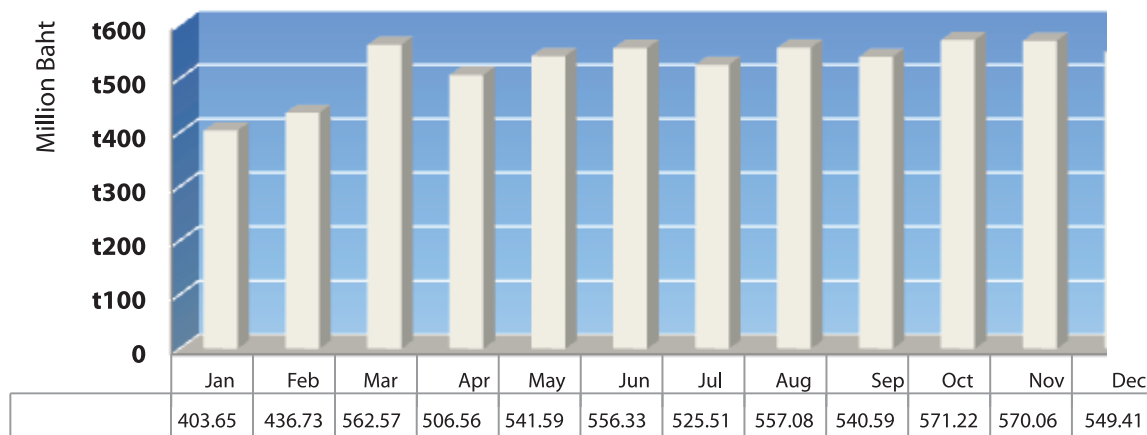


Source: Group of Broadcasting Policy and Research

(3) Market Value for Broadcasting Business

The yearly advertising value for primary radio frequency is THB6,321 million. The advertisement cost through radio in 2013 as compared with 2012, shown a decrease of 0.44 percent. However, in general, there is still a 5 percent proportion of the total advertising value in all kinds of media, as is shown in Charts 40 and 41.

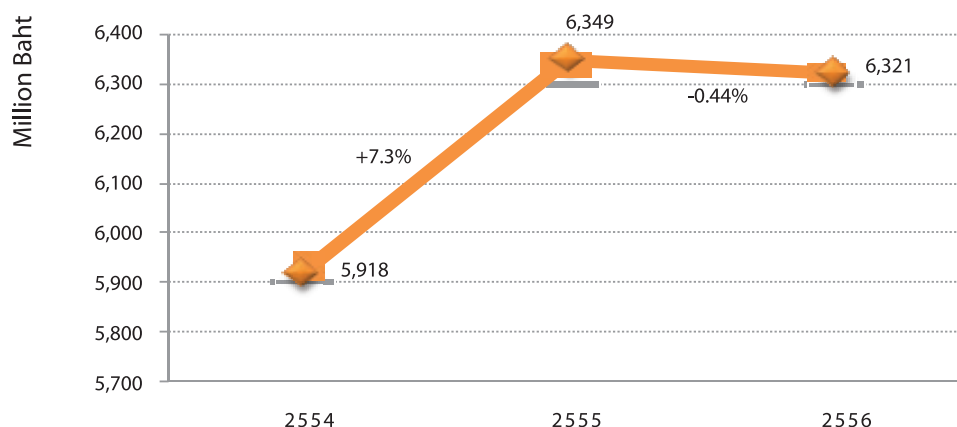
**Graph 40: Cost of Advertisement through Primary Radio Frequency
from January-December 2008 to 2013**



Source: Group of Broadcasting Policy and Research



Graph 41: The Changes in Advertising Value through Primary Radio Frequency during 2011-2013.



Source: Group of Broadcasting Policy and Research

Market Trend in Broadcasting and Television Service in 2014

1. Television Viewers

Trend of Television Viewers in 2014 as shown in Table 87

Table 87: Trend of Television Viewers in 2014

Details	2013 (%)	2014 (%)	2013 (low %)	2013 (high %)
Analog terrestrial TV	75	72	67	63
Cable and satellite*	25	28	26	24
Digital terrestrial TV	-	-	7	13
Total	100	100	100	100

*Including True Visions

Source: Group of Broadcasting Policy and Research

Viewers for each type of the services in 2014 can be divided into 2 cases, one which does not take into consideration terrestrial television in digital system and one which does. It has been noted that in 2014 there is a tendency that viewers of terrestrial television through digital system is approximately 7-13 percent, most of which are crossover of viewers from analog terrestrial television to digital.





2. Market Value in Broadcasting and Television Services in 2014

Market Value in Broadcasting and Television Services in 2014 as shown in Table 88

Table 88: Advertising Trends in Various Media Formats in 2014

Detail	2013 (Mil.)	2013 (%)	2014 (Mil.)	2014 (%)	% Change 2013-2014
Analog terrestrial TV	69,249	50	70,800	48	2
Cable and satellite*	15,153	11	14,200	10	-6
Digital terrestrial TV	-	-	4,300	3	-
Radio**	6,616	5	6,600	5	-0.24
Other media	48,088	35	50,100	34	4
Total	139,106	100	146,000	100	5

*Including True Visions

**Including advertising value of media owners' own advertising

Source: Group of Broadcasting Policy and Research

As speculated by the Media Agency and Media Businesses Association of Thailand, it is expected that in 2014, advertising value for analog television system will still continue to grow slightly at about 2 percent since the terrestrial television in digital system is still unable to cover all areas.

Besides, the advertisement cost through cable and satellite television will drop by 6 percent to about THB14,200 million deriving from the viewing of digital terrestrial television in place of viewing through cable and satellite television.

However, it is expected that the value of digital terrestrial television in digital system would be THB4,300 million, which is 3 percent of total advertisement cost for all kinds of media. In addition, the advertisement expenses that are available at present through cable and satellite television have a tendency to be transferred to digital terrestrial television in 2014. It is also expected that the growth in advertising value for broadcasting services in 2014 will be slightly reduced.

The Tendency to dominate broadcasting and television Services, the control and rights in cross-media one television Services

In 2013, a (draft) NBTC notification on setting criteria and preventive measures against monopolistic action over the business, the rights to cross-media broadcasting and dominance over the broadcasting and television services of ..., in order to prevent the control of the overall businesses, the rights over businesses of the same kind, the rights over cross-media and the





domination over broadcasting and television services. This has effect on the freedom for public access to information or the blocking of receiving diverse information of the general public, or creating monopoly, reducing and restricting competition in broadcasting and television services. The measures have been defined as follows:

- Measures to oversee the merger of businesses and cross-shareholdings.
- Measures related to the rights over the same kind of businesses and the rights to cross-media.
- The domination of services by individuals who have mutual interests.

At present, the (draft) NBTC notification on setting criteria and preventive measures against monopolistic action over the business, the rights over cross-media and the dominance in broadcasting and television businesses of ..., is still in the process of being presented to the Communications Authority of Thailand, prior to public hearings.

Quality of Service and Usage Charge in Broadcasting Services

1. The setting of regulations for the Committee on Broadcasting, Television and National Telecommunications services concerning the reduction or waiving of fee for licenses to implement broadcasting or television services for 2013.

To help promote all kinds of broadcasting and television services for those who have news program or program of substances that can benefit the public, the NBTC regulations pertaining to the reduction and waiver of fees for obtaining licenses for the broadcasting, television and telecommunication services of 2013 was published in the Royal Gazette on February 27, 2013, with the aim to allow those who are in broadcasting and television services to obtain reduced or waived fee for licenses based on the types of prevailing license rate, criteria and procedures, if they can prove to the Committee on broadcasting and television services that their news program contained news and information of substances that can benefit the public more than the set proportion for substance news benefitting the public.

2. Criteria for calculation of capital investment and ways of checking calculation method based on supporting documents for reference offer on the usage and television network connection, using digital spectrum at the national level.

The NBTC Office monitors the control of service fee for television network using digital spectrum systems at the national level by recommending ways to compute for capital investment and for cost of television network connection and to also check the method for calculation as per supporting document for reference offer on the usage and television network connection in digital spectrum at the national level. With regards to the service fee (Appendix A) for four types of licenses for Thai Public Broadcasting Services (TPBS), Royal Thai Army Radio and Television Channel 5, Modern 9 (MCOT) and the Public Relations Department. NBTC will only review the service fees when those who have been given the licenses are able to adhere to all rules and regulations for a period of one year or as set by the NBTC Commission.





2. The Market Environment and Competition in Telecommunication Services

The market condition and competition in telecommunication service consisted of:

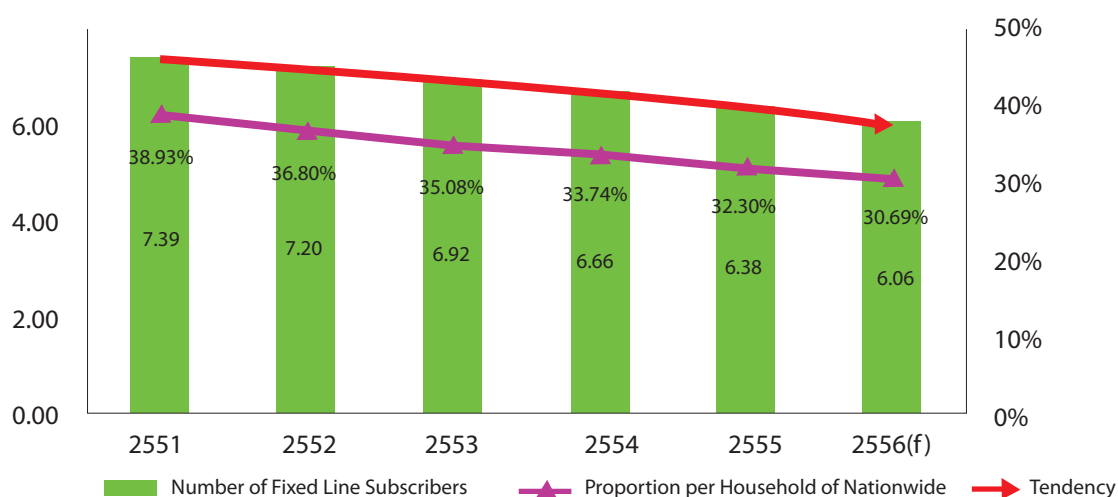
1. Fixed Line Services

The current market for fixed line phone services in Thailand have five service providers: TOT Public Co., Ltd. (TOT) provides full coverage of fixed line services in the country; True Corporation Public Co., Ltd. provides coverage only in Bangkok and metropolitan areas; and TT&T Public Co., Ltd. provides fixed line service under the joint contract with TOT. The two new additions are: Triple T. Broadband Public Co., Ltd. (business license granted on February 23, 2006) and True Universal Convergence (service license granted on December 7, 2006) to provide services in Bangkok and metropolitan and provincial areas. (Both companies were derived from the expansion of the old companies in order to be able to provide services outside of respective joint contracts.)

At present, there are about 6.11 million numbers of registered subscribers for fixed line phone services. The number declined compared to 2012 with 6.38 million subscribers, or a 4.23 percent reduction as shown in Chart 42. Due to market saturation, the growth rate decreased for various reasons, both in terms of the life cycle of the PSTN technology. Also, the replacement technology responded efficiently to the needs of users and coincided with the daily life by the change of its features of services more convenient than the fixed line telephone. The formats vary and there is a tendency that the cost would be reduced or lowered. For this reason, the marketing strategy for fixed line services needed to be adjusted so that the market would not decline severely. This is reflected through the service provider of sale price strategy, who try to encourage the usage of services by setting the cost level in the form of offering promotion package that would cater to the behavior of mobile phone subscribers.

However, if the service market is classified according to areas of services, fixed line phone services in Bangkok and metropolitan areas has 3.16 million lines, and 2.80 million lines regionally, meaning a proportion of fixed line services in Bangkok and metropolitan is 54.17 percent and the regional level is 45.83 percent, as is shown in Chart 42 and Table 89.




Graph 42: Number of Fixed Line Subscribers during 2008-2013


Note: F is speculation of data

Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management

Table 89: Number of Fixed-Line Subscribers 2008-2013

No. of Fixed Line Subscribers	2008	2009	2010	2011	2012	2013 (F)
Bangkok and suburbs (1 million)	3.83	3.70	3.57	3.48	3.38	3.16
Regions (1 million)	3.56	3.50	3.35	3.18	3.00	2.90
Whole nation (1 million)	7.39	7.20	6.92	6.66	6.38	6.06
Growth rate (%)	-	-2.56	-3.89	-3.81	-4.22	-5.02
Proportion of subscribers per 100 population (%)	11.12	10.77	10.50	10.06	9.59	9.08
Bangkok and suburbs	33.51	32.18	24.45	23.48	22.56	20.76
Regions (%)	6.47	6.32	6.54	6.19	5.81	5.63
Proportion of subscribers per household (%)	38.93	36.80	35.08	33.74	32.30	30.69
Bangkok and suburbs	132.81	125.03	119.88	116.74	113.65	105.98
Regions (%)	22.10	21.08	20.01	19.00	17.85	17.31

Note: F is speculation of data

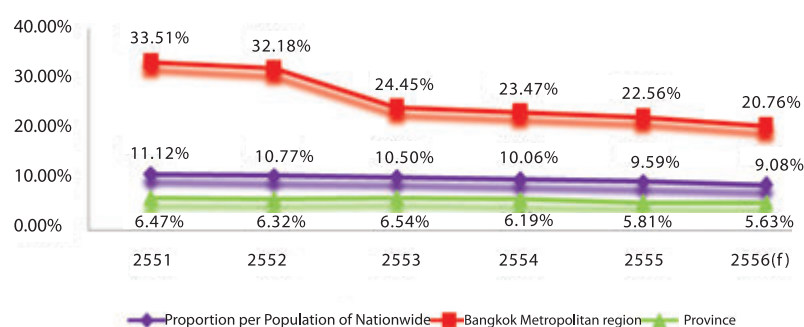
Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management





The number of fixed line phone subscribers categorized by area of services in 2008-2013, using the diffusion indicator, it is noted that the proportion of fixed line phone subscribers that are opened for services for every 100 people, the fixed line penetration rate for the whole nation is between 9-11 numbers per 100 people. This rate is considered low when compared to the average value at the world's level. According to the ITU data (ICT Indicator database 2012), it is found that in 2008 average diffusion value at world level is approximately 16.9 numbers. The reason for the low diffusion value is that the proportion of fixed line subscribers at the regional level is very low, at between 5-6 lines to 100 people. While the diffusion value in Bangkok and metropolitan areas is as high as 21-34 numbers to 100 people. There still appears an indication of inequality in having access to and receiving phone services between urban areas and the region. However, when taking into consideration the number of fixed line phones per household, it is noted that in Bangkok and metropolitan area, there is at least one number of fixed line phone, but at the regional level, there is only 6-7 households sharing one fixed line phone, as shown in Charts 43 and 44.

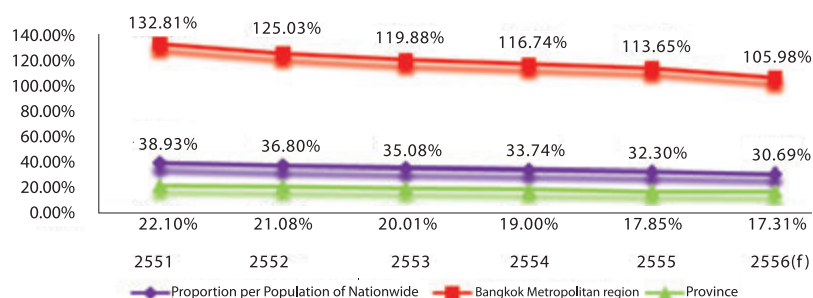
Graph 43: Proportion of Fixed Line Subscribers Categorized according to Area of Services per 100 People during 2008-2013



Note: f is expected data

Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management

Graph 44: Proportion of Fixed Line Subscribers Categorized according to Area of Services per Household during 2008-2013



Note: f is expected data

Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management



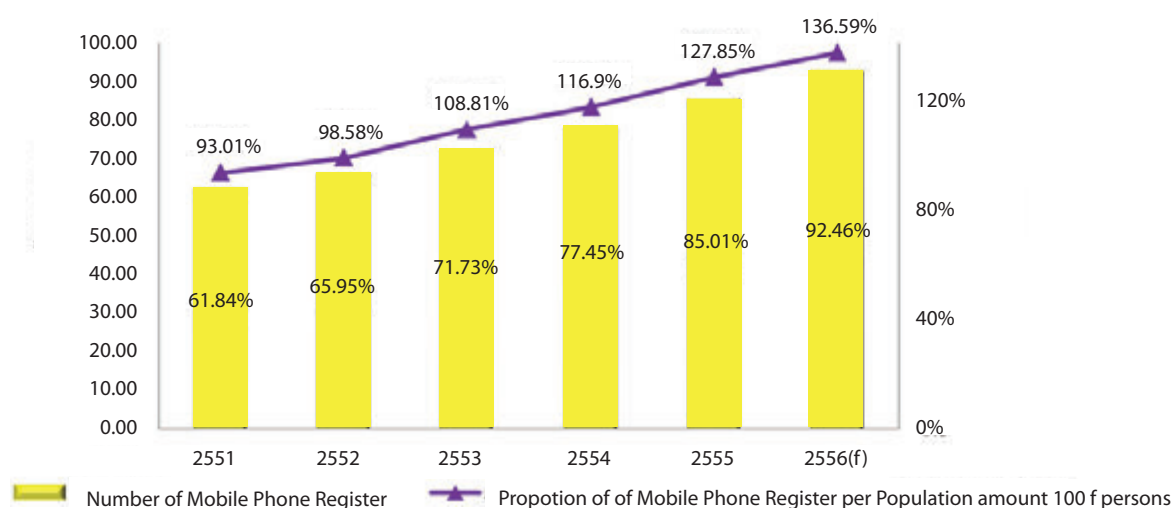


The concentration of services for fixed line phone services market is quite high and it is still under the same major provider. This is due to the reason that the fixed-line phone service businesses require high investment, which naturally leads monopoly. There are still many limitations under the contract terms to enable new providers to compete and the analysis shows that the commercial investment for this fixed line phone service is, therefore, not worthwhile. In addition, the market is saturated and the behavior of users changed, with the replacement of new technology that can meet the purpose of communication with reasons of conveniences and low cost rate of services.

2. Mobile services

The Mobile phone subscriber in 2013 is about 91.18 million numbers in total which expanded as compared to 2012 to 85.01 million numbers or with the increase of growth rate of 7.26%. However, the growth rate is delayed, as shown in Chart 45.

Graph 45: Numbers of Mobile Subscribers during 2008-2013



Note: f is expected data

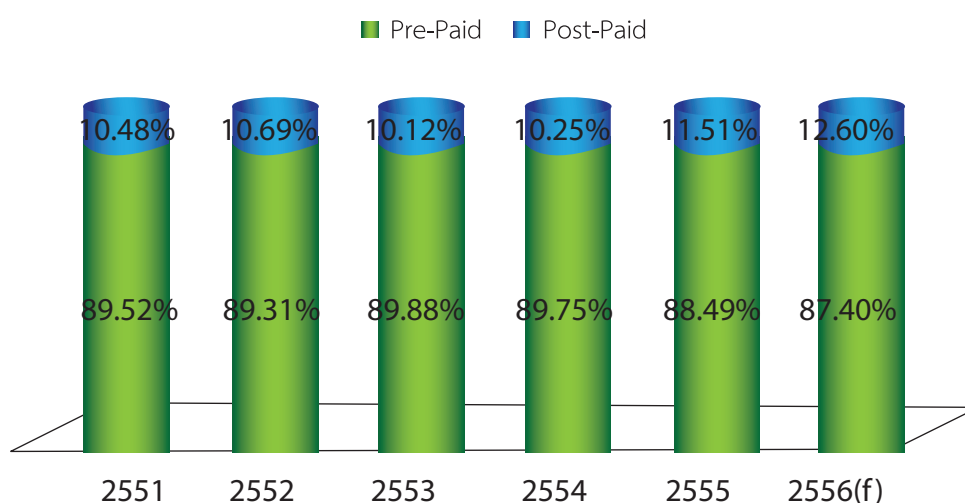
Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management





When categorizing mobile phone subscribers according to its usage of services, it is found that in 2013 there are 91.18 million numbers of mobile phone subscribers, comprising of mostly pre-paid subscribers with 79.99 million numbers or 87.73 percent out of all mobile phone subscribers. While post-paid subscribers number 11.19 million or 12.27 percent – seven times difference. The proportion of pre-paid mobile phone subscribers has decreased. When compared to 2013, most are pre-paid subscribers with 75.23 million numbers or 88.49 percent out of the total mobile phone subscribers. The monthly post-paid subscribers are 9.78 million numbers or 11.51percent – eight times the number of pre-paid subscribers, as shown in Chart 46.

Graph 46: Proportion of Pre-Paid and Post-Paid Mobile Subscribers

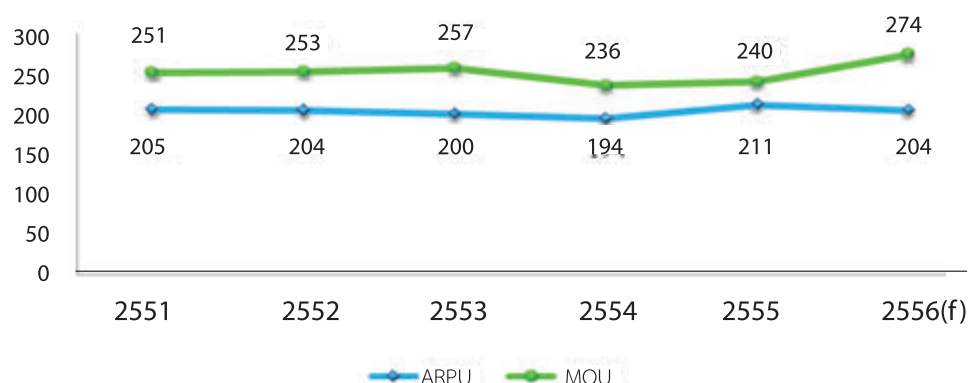


Note: f is expected data

Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management

The analysis of the number of minutes of use (MOU) per month for 2013 is 237 MOU per month. The compiled statistics of the services used in the past from 2008 to 2013 shows that the average MOU is quite stable with a slight decrease of 1.25 percent as compared to 2013 of which the kind of communication is not more by sound. The service providers have to compete to maintain their own market based by working on pricing strategy. This is reflected in various forms of providing service promotion packages that correspond intensely to the needs of users. The rate of mobile phone service has been reflected in the form of average revenue per unit (ARPU) by service providers, as shown in Chart 47.



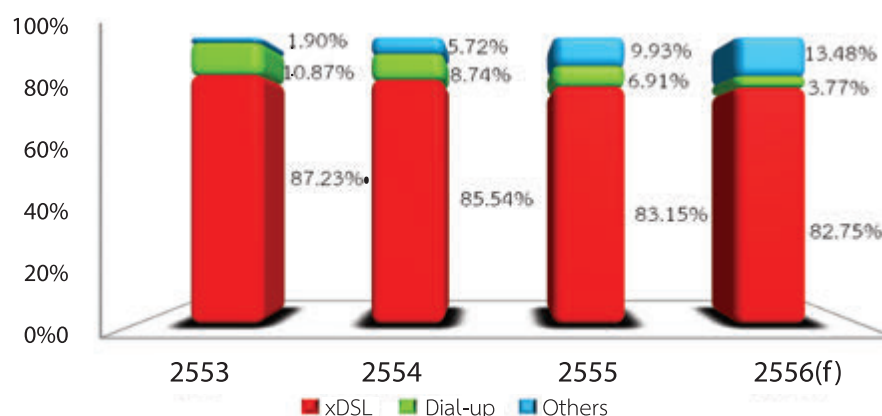
**Graph 47: Trends of Usage and Revenue from Mobile Services**

Note: f is expected data

Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management

3. Internet Services

The internet service in Thailand has developed and has changed its format for providing services and usage in various ways. The internet service provider (ISP) provides direct service to subscribers or provides access to internet services. The network provider is a channel of service for reaching the user and a service provider for International Internet Gateway (IIG) that links internet users in Thailand to the international internet service. At present, the narrowband internet has a tendency to disappear from the internet marketing with only 4.09 percent of users left out of the total internet services in 2013. Meanwhile, the broadband internet has increased tremendously to 87.83 percent of all internet services, as shown in Chart 48.

Graph 48: Proportion of Internet Connection during 2008-2013

Note: f is expected data

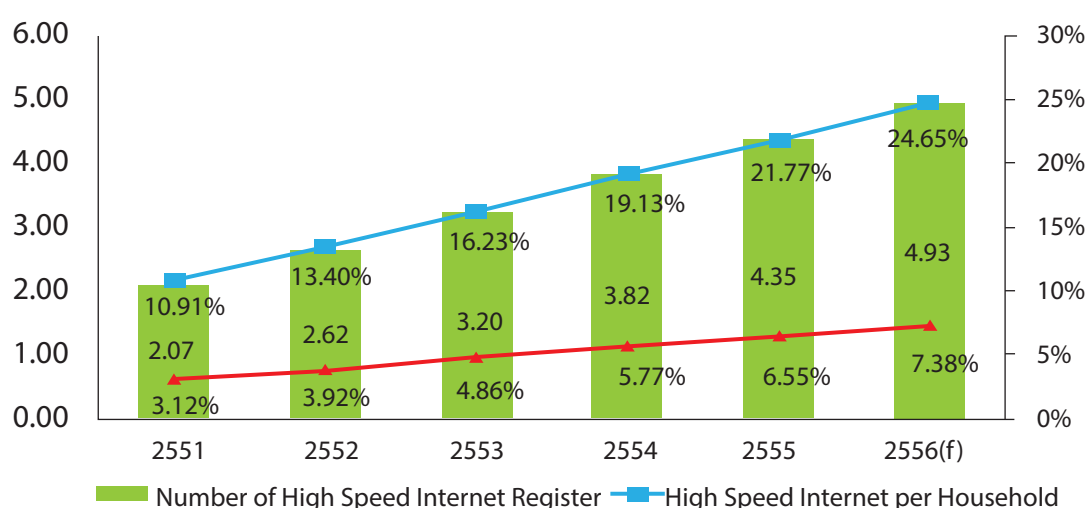
Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management





With the change of broadband internet users that grew rapidly, the number of subscribers of broadband internet increased to 4.72 million in 2013. The increase of broadband internet subscribers substitutes the number of narrowband internet subscribers that was reduced, or it can be said that the narrowband internet subscribers that is low is because some subscribers switched to broadband internet. Therefore, the proportion of broadband internet subscribers is 7.07 numbers to every 100 people or 23.63 households that subscribes broadband internet out of the total 100 households for the whole country, as is shown in Chart 49.

Graph 49: Number of Narrowband Internet and Broadband Internet Subscribers during 2008-2014



Note: f is expected data

Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management

Trends of Telecommunications Marketing Service in 2013-2014

At the end of 2008, there was an allocation of spectrum of 2.1 GHz and the granting of licenses for such frequency from May 2013 together with the auction plan for spectrum 1800 MHz of which its contract has expired. During the month of September 2014, it will be a driving force for the telecommunications services to increase expansion, especially the broadband internet services through mobile phones. It is expected that the growth rate of telecommunications will increase to 5.8 percent and 11.7percent, respectively, based on the driving force of the mobile phone marketing service and the broadband internet marketing, as shown in Table 90.



**Table 90: Telecommunications Marketing Service Value 2013-2014**

Services	2013		2014 f	
	Value (THB million)	Expansion Rate (%)	Value (THB million)	Expansion Rate (%)
Fixed line phone	13,600	-27.9	11,700	-14.0
Broadband internet	40,200	10.7	45,300	12.7
Mobile phone service	222,200	8.5	252,200	13.5
Data communication	5,500	-6.3	5,100	-7.3
Total	281,500	5.8	314,300	11.7

Note: f is expected data

Source: Data and Economic Telecommunications Research Center,
Group of Telecommunications Policy and Resources Management

Considering the rate of expansion of each service, it is found that the mobile phone service can still maintain the high value of marketing and in 2014 it is expected that the value will go up to as high as THB252,200 million, an expansion rate of 13.5 percent over 2013. This is due to some main factors, the in-progress auction plan of radio frequency 1800 MHz that will be an important driving force in the telecommunications development industry. For fixed line broadband internet, there is a tendency that the marketing services value in 2014 will increase by 12.7 percent over 2013 as well. This may be due to the increase in quality from internet service through mobile phone, which is a driving force for fixed line internet service provider to accelerate improvement to suit the changing market in the future.

For services with recessive value, such as fixed line phone and communication services, it is expected that in 2014 the fixed line phone services will have a value of THB11,700 million, a decrease of 14.0 percent over 2013. The old model of services has limitation of becoming a natural monopoly. It is, therefore, necessary that large investment is needed and especially that when fixed line phone is saturated and declining if no incentive for new service providers in the market. For communication services having a declining growth rate in 2014 by 7.3 percent compared to 2013, which is due to the reason that communication services group are using old format that has continuous decrease in revenue because subscribers change their usage more to the IP format of communication technology.





The Auction in the Nature of Dominance in Telecommunications Services

The NBCT Office has acted on the NBC Notification on the criteria, merger, and cross-shareholding in telecommunications services of 2013 as in the following details:

1. In the case wherein there is a continuation of business from 2011, NBC Meeting 29/2011 on behalf of NBTC dated September 14, 2011, approved the merger of True Move Co., Ltd. and True International Co., Ltd. NBTC. Therefore, there is the duty to monitor the implementation of the merger according to Article 10, which states that the independent consultant must report on the impact of behavior and the effect on to the board members every three months for two years, from the day when the merger is approved. In this case, NBTC has already reported the behavior and the effects it will have on the board for quarters 1-3.

2. The request for approval for the merger of T&T Public Co.,Ltd. and Amnax Co., Ltd., considered at NTCMeeting 31/2013on August 29, 2013, was approved retroactively effective from February 23, 2012. At present, the report on the behavior impact and its effect on the board members is being prepared.

3. The request for approval for the merger of telecommunications services between TCC Holdings Co., Ltd. and BenjaJinda Holdings Co., Ltd. is for establishing a new entity called Shinasap Co., Ltd.





Quality of Service and Usage Charge in Telecommunications Services

1. Quality of Telecommunication Services

1.) Follow-up and Monitoring of Quality of Service of Cellular Phones, as shown in Table 91.

Table 91: Quality of Service Monitoring for Cellular Phones (Quarter 1/2013)

Service Provider	Type of Services	Parameters not Conforming to Standard	Target	Measurable Average Value	Explanation
Total Access Communication Co., Ltd. (DTAC)	Cellular phone	Waiting time to provide service of call center	Standard value of notification should not exceed 60 seconds	Quarterly average value that can be measured is 123.62 seconds	<p><u>Company's explanation</u> On Jan., 16, 2013 at 22.00 hrs. to Jan. 18, 2013 at 12.00 hrs, the company changed the equipment in order to improve customer's relation and services. The membership application service and the changing of package service were temporarily closed but customer still could place or receive calls and send SMS messages and can still make internet connections. The Company has informed NBTC and made announcements through various media, such as in Thai Rat and Bangkok Post newspapers, on www.dtac.co.th. (all branches of the service center. At such time, customer telephone to call the Center to enquire information about the temporary stopping of services, thus officials at call center needed to spend more time in explaining to customers.</p> <p><u>Problem solving</u> The Company explained that the data of customer requesting for service has been kept and will be taken care when the system will be in place and until the Company is able to provide normal service.</p>

Source: Group of Telecommunications Standard and Technology





The NTC Notification on standard and quality of service voice telecommunications are enforced to provide the overall quality of services. Each service provider should, therefore, have its own testing system which is more complicated than the previous ones, in order to improve the efficiency and quality of service. In addition, it is also another format of developing telecommunications industry.

However, the current evolution of telecommunication technology for cellular phone has been changing rapidly with the use of wireless broadband internet through cellular phone or other kinds of devices. Nevertheless, the voice telecommunication service is still of importance and necessary for subscribers. In order to make the rules conform to present circumstances, the NBTC Meeting 7/2013 dated of March 26, 2013 approved the establishment of a working group to help improve and revise NBTC Notification on standard and quality of voice in telecommunication services. The working group is in the process of drafting the NBTC notification on standard and service quality of voice in telecommunications.

In Quarter 2/2013, there are no telecommunication services of all types with standard value below the set criteria.

In following-up and monitoring of the quality service of cellular phone in the 3rd quarter, the performance is shown below in Table 92.

Table 92: Quality of Service Monitoring for Cellular Phones (Quarter 3/2013)

Service Provider	Type of Services	Parameters not Conforming to Standard	Target	Average Measurement	Explanation
Total Access Communication Co., Ltd. (DTAC)	Cellular phone	Waiting time to provide customer service of mobile phone center	Standard value of notification should not exceed 60 seconds	Quarterly average value 77.04 seconds	<u>Company's explanation</u> In August, DTAC has made public announcement of 3-network DTAC TRINET (3G). This has been of interest to customers and many had made enquiries to the Call Center through all channels, such as how and where to transfer data, explanation on how to set mobile phone OTA value or customers' SIMs did not support TRINET 3G, the area coverage of DTAC TRINET. Each advice required time to achieve understanding.





Service Provider	Type of Services	Parameters not Conforming to Standard	Target	Average Measurement	Explanation
					The details and enquiries that were received, required more time than normal for the customer relations officials to explain. This is the reason why the waiting time of the Call Center was longer than the target time.

Source: Group of Telecommunications Standard and Technology

In the case of service providers that have been granted licenses and did not follow this announcement or neglected to follow any of the guidelines, the rules on the implementation of the provisions of Chapter 9 of Telecommunication Businesses Act of 2001 will be enforced.

For cellular phones, True Move Co., Ltd., and Digital Phone Co., Ltd. (DPC) have the concession for spectrum 1800 MHz which was ending on September 15, 2013, as stated in the NBTC Notification on temporary protection measures to help protect the subscribers when the concession was ending, to allow subscribers to still have access to services for a temporary period of one year. During the time that the protective measure was enforced, the service provider was not allowed to add new subscribers and the service quality service had to be maintained.

With such a measure, both companies were still required to submit quality of service report to NBTC. The report (2nd and 3rd Quarters of 2013) was the data prior to September 15, 2013 of both companies. NBTC would provide report on service quality of voice telecommunication services after the concession has ended and would be presented in 2014.

With the evolution of technology, the cellular phone telecommunication has been changing rapidly. Although at present, the technology has entered into the 3rd generation or 3G, and wireless broadband internet services through cellular phones or other devices are available, in reality, the service of such technology was not widely available as compared to available voice telecommunication services. However, this was quite important since most subscribers used voice telecommunications as the main mode of telecommunication.





Since the NTC Notification on standard and quality of service for voice telecommunication came into effect in 2001, there have been many changes in the cellular phone telecommunication technology and the NBC visualized that the notification should be revised to reflect the current situation and be announced under NBTC. It has, therefore, established a workinggroup to revise the NTC Notification to harmonize the technology and the current situation. The Notification was meant to also protect the voice telecommunication subscribers to receive quality and appropriate services. The workgroup on standard revision and quality of service in telecommunications was in the process of presenting the draft notification to the NTC Meeting and the NBTC Meeting for approval before bringing to public hearing with relevant people and the general public prior to being enforced.

2.) A following-up and monitoring of service quality of international cellular telecommunication of 2.1 GHz of AWN RF and DTN was conducted in December 2013. NBTC has established a working group to conduct a study to follow-up and monitor the cellular international telecommunication 2.1 GHz on April 11, 2013 (and additional appointments were made on May 8, 2013) in order to check that rules for requesting license have been adhered to for mobile international telecommunication services according to NTC. A report should be submitted to NTC periodically. The follow-up and monitoring of service quality for cellular international telecommunications can be divided into two parts:

(1) Voice Call Test Results

In 2013, the testing was conducted in Bangkok and it was found that AWN RF and DTN voice successful call ratio was more than 90 percent (data as of December 31, 2013), as shown in Table 93.



**Table 93: Voice Call Test Results**

Service Provider	Bangkok	Remarks
AWN	99.57%	Call Test: 235 times, successful: 234 times
RF	100.00%	Call Test: 242 times, successful: 242 times
DTN	99.57%	Call Test: 231 times, successful: 230 times

Source: The Work Group on the Tracking and Regulating the Universal Mobile Telecommunication Businesses on 2.1 GHz

(2) Speed Test Results on FTP Download

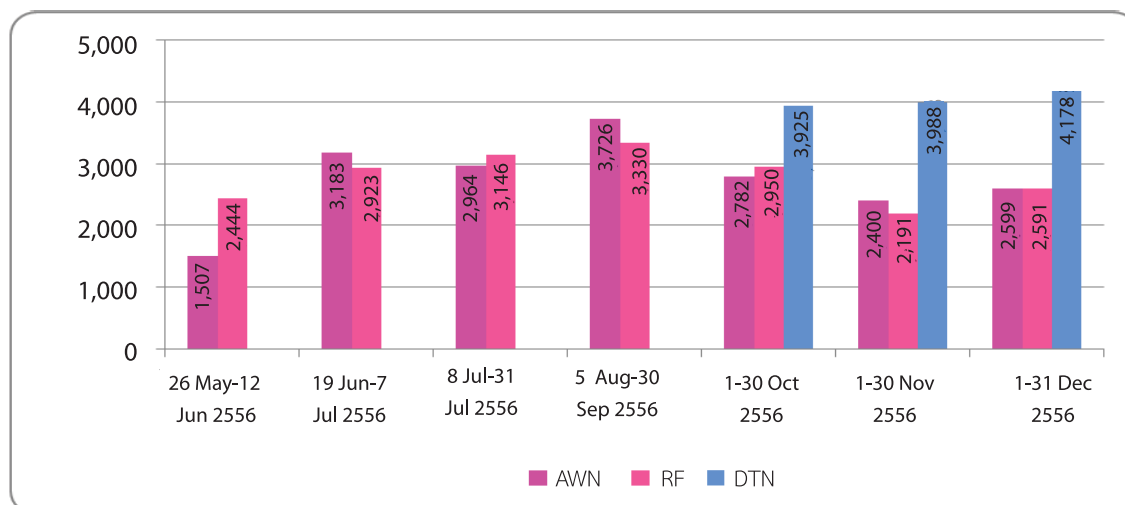
In 2013, data download speed testing in Bangkok was at with 5Mbps. For Bangkok, AWN has an average download speed in November and December 2013 at 8 percent (AWN has an average download speed in November 2013 at 2,400kbps and in December 2013 at 2,599 kbps), similar to RF that increased from 2,191kbps in November 2013 to 2,599 kbps in December 2013 or an increase of 18 percent. For DTN, the speed increased from 3,988kbps in November 2013 to 4,178kbps in December 2013 or an increase of 4 percent. If considering the month of December 2013, it can be seen that DTN has the highest average download speed at 4,178kbps. Second was AWN and RF with a download speed of 2,599kbps and 2,592kbps respectively (data as of 31 December 2013).

A comparison of the average download of information around Bangkok was tested, by downloading information size 5Mbps and 15 Mbps for December 2013. It was found that in downloading information of different sizes, the downloading speeds did not differ significantly. DTN had an average speed of 4,178kbps and 4,308kbps, respectively for information of 5Mbps and 15Mbps sizes, or the downloading of information size 15Mbps, higher speed averaging by 3 percent was found. Second was AWN of which the average speed for downloading information sizes 5 Mbps and 15Mbps were 2,599kbps and 2,700kbps, respectively, or the downloading of size 15Mbps had a higher speed by about 4 percent. While RF has an average download speed for sizes 5 Mbps and 15Mbps of 2,592kbps and 2,528kbps, respectively. Obviously, the downloading of information size 15 Mbps had a download speed higher than size 5 Mbps by about 2 percent, as shown in Charts 50 and 51.



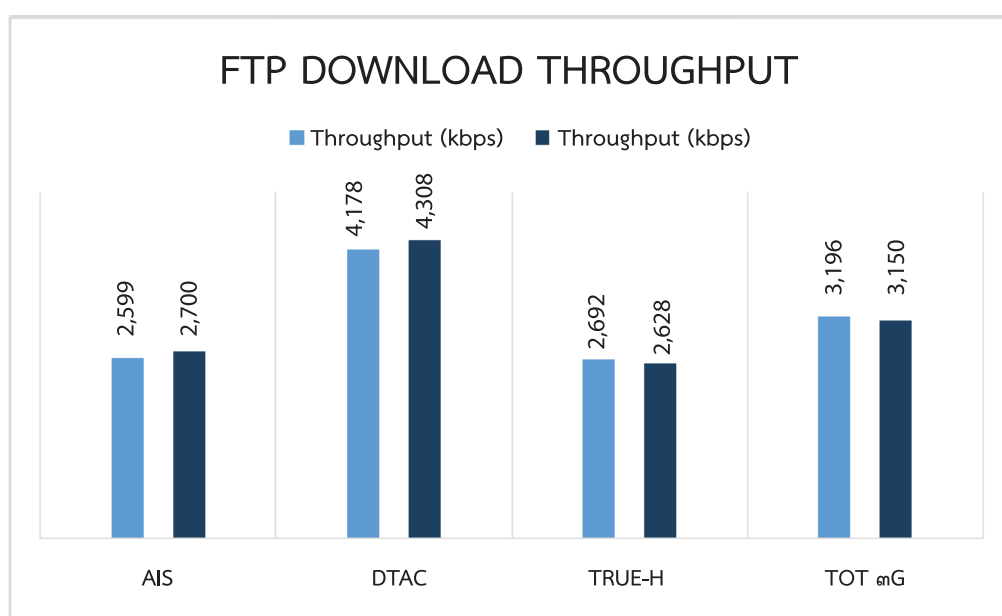


**Graph 50: Average Download Speed of Information in Bangkok from May to December
2013 (Data Size 5MB)**



Source: The Work Group on the Tracking and Regulating the Universal Mobile Telecommunication
Businesses on 2.1 GHz

**Graph 51: Comparison of Test Results of Average Speed in Bangkok for Information
Sizes 5MB and 15MB in December 2013**



Source: The Work Group on the Tracking and Regulating the Universal Mobile Telecommunication
Businesses on 2.1 GHz



3. The Preparation of Draft Notification Related to Technical Standard of Telecommunication Equipment

In addition, for telecommunication service with international standard and quality, NBTC has drafted an notification related to the technical standard of telecommunication equipment in 2013 as follows

(1) NBTC draft notification on technical standard of telecommunication equipment for radiocommunication short range devices at radio frequencies 57-66 GHz in the format of Wireless Local Area Network (WLAN) or Wireless Personal Area Network (WPAN) of

(2) NBTC draft notification on technical standard of telecommunications equipment for radio communications pocket units, under International Mobile Telecommunications (IMT) which uses the Evolved Universal Terrestrial Radio Access (E-UTRA) technology and the NBTC announcement on technical standard of telecommunication and equipment for radiocommunication pocket unit for on-site paging system.

(3) NBTC draft notification on technical standard and telecommunications equipment for radio base unit communications for on-site paging system.

(4) NBTC draft notification on technical standard and telecommunication equipment for radio communication pocket unit for on-site paging system. Both draft notification were in the process of requesting approval before release to stakeholders and the general public.

2. Telecommunication Service Fee

The NBTC has conducted an analysis of the service fees for two main markets – fixed line phone service and cellular phone service in 2013, which can be summarized as follow:

a. Fixed-line Phone Service

(1) Service Provider for fixed line phone service

The three main service providers for basic telecommunications service are: TOT Public Co., Ltd. (TOT), True Corporation Public Co., Ltd. (TRUE), and TT&T Public Co., Ltd. (TT&T).

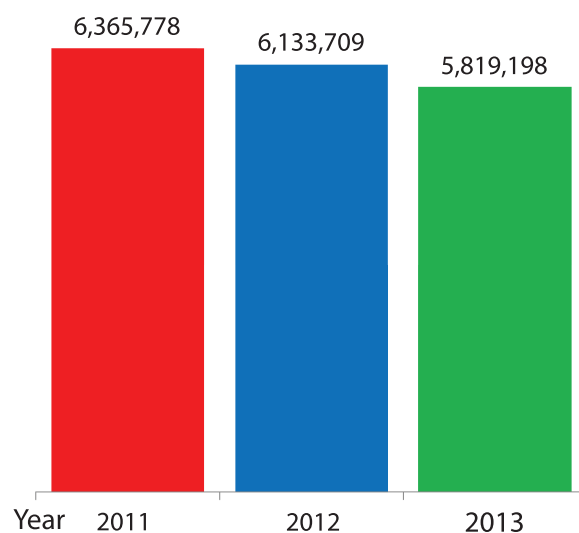
(2) Numbers of Fixed-line Phone Services

In 2013, there were 5,819,198 numbers of fixed lines, a decrease of 314,511 numbers over 2012 or -5.13 percent, as shown in Chart 51. The service provider with the most numbers of lines in the market is TOT Public Co., Ltd. with 60 percent, or 3,490,215 numbers in 2013 – a decrease of 142,688 numbers over 2012, or -4.09 percent. In second place was True Corporation Public Co., Ltd. (TRUE) with 29 percent, or 1,695,609 numbers in 2013 with subscribers of 1,695,609 numbers, and a decrease of 85,890 numbers from 2012 (5.06 percent less). In the last place was TT&T Public Co., Ltd., with 11 percent, or 633,374 numbers – a decrease of 85,933 numbers from 2012 (13.57 percent down), as shown in Chart 52.



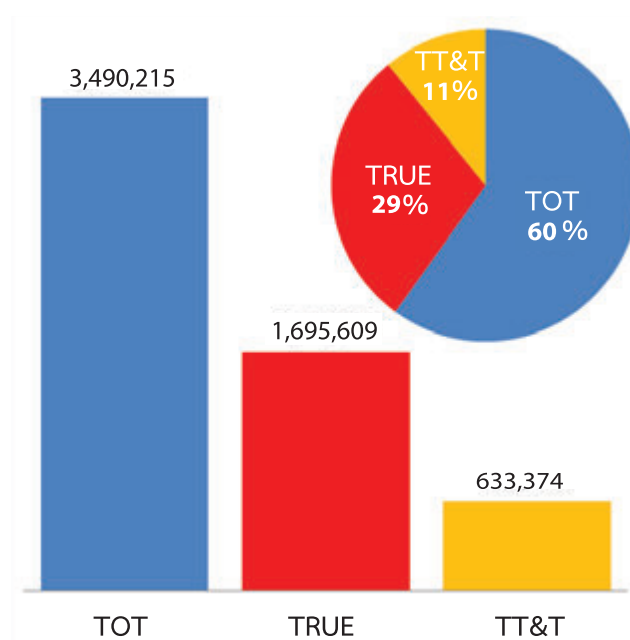


Graph 52: The Number of Subscribers of Fixed-Line Telephone Service during 2011-2013



Source: Group of Telecommunications Tariffs

**Graph 53: Number of Fixed-Line Telephone by Service Providers during 2011-2013
and their Market Shares**



Source: Group of Telecommunications Tariffs

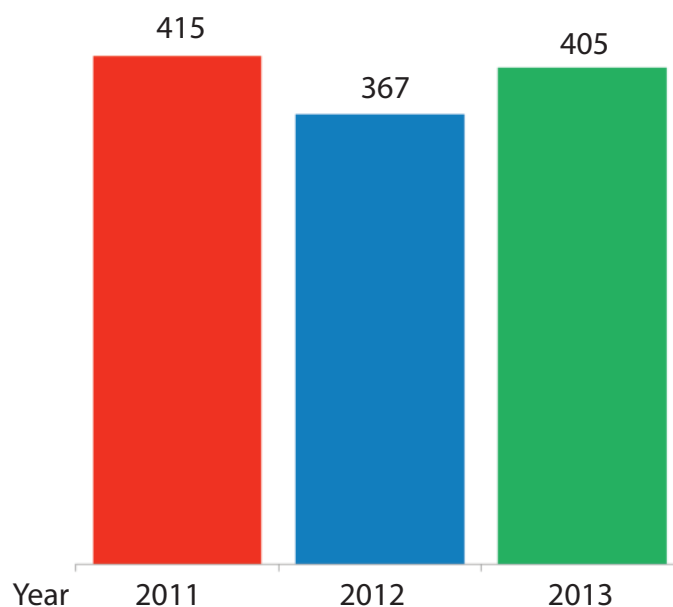


The numbers of subscribers for fixed line phone service has a tendency to decrease each year because of the change in usage behavior of subscribers. The change is by using fixed line phone service that has a lower service fee and that which is more convenient. However, most subscribers still see the importance of fixed line phone service as a communication channel and is used for linking to internet and for use as a basic communication tool in the businesses and governmental sectors. Therefore, the service providers still need to provide installation and maintenance services for fixed line phones, even the usage is currently very low.

3) The Service Fee and Average Revenue per User (APRU) for Fixed Line Phone Service.

The service fee for fixed-line phone service of service providers for 2013 is between THB1.00-3.00 per usage for average revenue per user (APRU), an increase of THB367 per month per number in 2012. It was THB405 per month per number in 2013 as is shown in Chart 54. The reason for this increase may have no significance since the adjustment is an adjusted monthly charge as promotion package for fixed-line phone service by service providers in response to the continued decrease of numbers.

Graph 54: Average Revenue per User (APRU) for Fixed-Line Telephone Services during 2012-2013 (THB/Number)



Source: Group of Telecommunications Tariffs

b. Mobile Phone Services





1) Service Providers in Cellular Phone Market

The current mobile phone services can be divided into three systems – service providers for mobile phone service on 2G and 3G (in-band migration). There are four companies serving these systems: Advance Info Service Public Co., Ltd. (AIS), Total Access Communication Public Co., Ltd. (DTAC), Digital Phone Co., Ltd. (DPC), True Move Co., Ltd. (TRUE MOVE).

There are three service providers on 3G mobile phone spectrum 2.1 GHz: Advance Wireless Network Co., Ltd. (AWN), DTAC Trinet Co., Ltd. (DTAC Trinet), Real Future Public Co., Ltd. (Real Future). There are also five service providers for Mobile Virtual Network Operators (MVNO): Loxley Public Co., Ltd. (i-Kool 3G), Samart I-Mobile Co., Ltd. (i-mobile 3G), IEC International Engineering Public Co., Ltd (IEC 3G), M Corporation Co., Ltd. (MOJO 3G), and Real Move Co., Ltd. (TRUE MOVE H), as shown in Table 94.

Table 94: Mobile Phone Service Providers in Thailand

Service Providers for Mobile Phone, 2G and 3G (in-band migration)	
<ol style="list-style-type: none"> 1. Advance Info Service Public Co., Ltd. (AIS) 2. Total Access Communications Public Co., Ltd. (DTAC) 3. Digital Phone Co., Ltd. (DPC) 4. True Move Co., Ltd. (TRUE MOVE) 	
Service Providers for Mobile Phone 3G 2.1 GHz	Service Providers on Virtual Network
<ol style="list-style-type: none"> 1. Advance Wireless Network Co., Ltd. (AWN) 2. DTAC Trinet Co., Ltd. (DTAC) 3. Real Future Public Co., Ltd. (Real Future) 	<ol style="list-style-type: none"> 1. Loxley Public Co., Ltd. (i-Kool 3G) 2. Samart I-Mobile Co., Ltd. (i-mobile 3G) 3. IEC International Engineering Public Co., Ltd. (IEC 3G) 4. M. Corporation Co., Ltd. (MOJO 3G) 5. Real Move Co., Ltd. (TRUE MOVE H)

Source: Group of Telecommunications Tariffs

2) Numbers of Mobile Phone Services

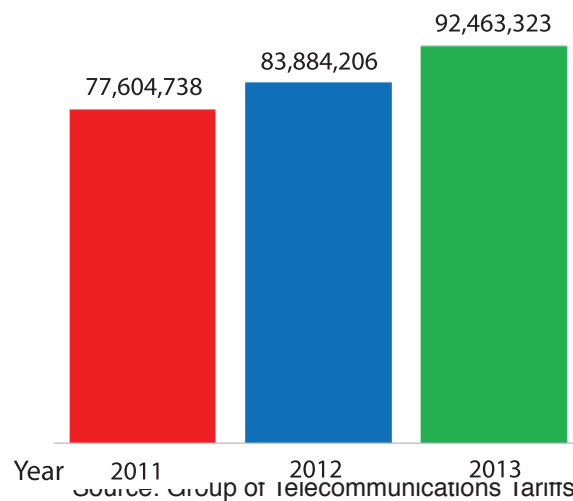
In 2013, there were 92,463,323 mobile phone numbers – an increase of 8,597,117 numbers from 2012, or 10 percent. The rate of such increase is 2 percent higher than the increase from 2011-2012, as shown in Chart 54. One with the highest market share was Advance Info Service Public Co., Ltd. (AIS) and Advance Wireless Network Co., Ltd. (AWN) (an AIS affiliated company) which had a market share in 2013 of 41 percent or 38,328,696 numbers – an increase of 2,427,411 numbers, or 6.76 percent over 2012. Second place in the market was Total Access Communications Public Co., Ltd. (DTAC) with a market share of 31 percent or 28,470,148 subscribers, an increase of 4,361,323 numbers (+18.07 percent) over 2012. In third place was True Move Co., Ltd. with a



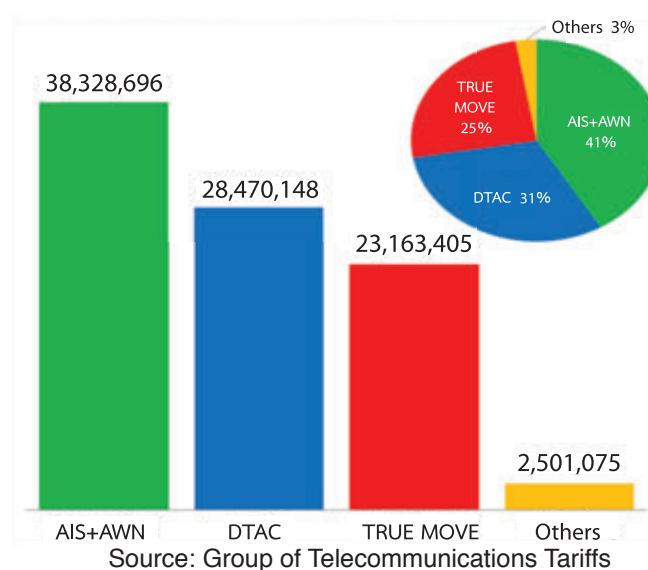


market share of 25 percent with 23,163,405 subscribers, an increase from 2012 of 379,148 numbers (+1.66 percent). As for the remaining eight companies, the combined market share was 3 percent with a total of 2,501,075 subscribers. Although the eight companies had a very small market share compared to AIS plus AWN, DTAC and True Move, the growth rate of subscribers from 2012-2013 was 130.55 percent or 1,416,235 numbers. The CAT Public Co., Ltd. (CAT) is accountable for raising the overall upsurge of subscribers for other companies by 101.49 percent, as shown in Chart 55.

Graph 55: Number of Subscribers Using Mobile Telephone Services during 2011-2013



Graph 56: Number of Mobile Phone Service Providers in 2011-2013 and their Market Shares



The reason for the increase in numbers of mobile phone came from the enthusiasm of





consumers and the 3G mobile service, which was the latest communications technology in Thailand, in addition to the various marketing promotions to attract new subscribers. Especially for the small service providers, which had a very small market share, but could still capture specific, or niche, markets of those using Aircards and SIM cards that limit themselves only to data services. Thus, the market growth was twice as fast.

3) Number of Sale Promotions of Mobile Phones

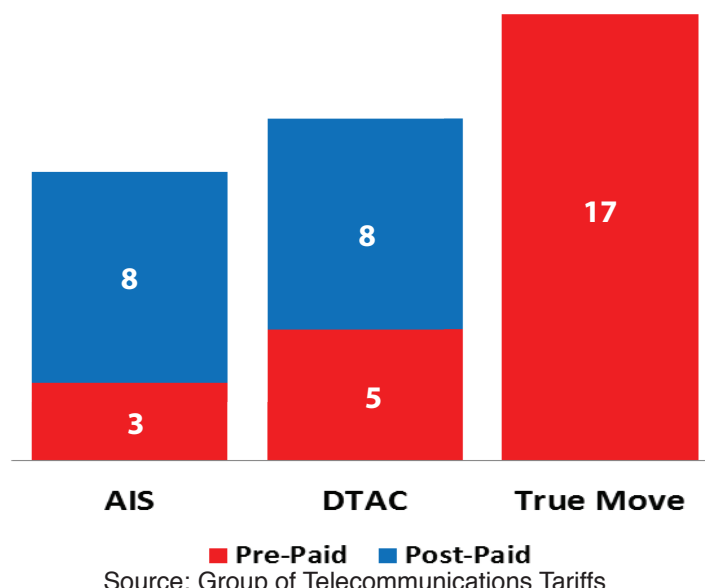
The enthusiasm of consumers and the introduction of 3G mobile service may not only stem from the hunger for the newest technology, but also from many promotion packages offered by service providers in 2013, as shown in Chart 56. This showed that the marketing promotion by the three big players had 41 promotion packages in 2013. AIS had 11 items – three Post-paid and eight Pre-paid packages. DTAC had 13 packages – five for Post-paid and eight Pre-paid, while True Move had 17 – all of which were Pre-paid packages. The total equals to 95 percent (True Move still had promotion packages from 2012, with no additional items – 39 items), and providing data service (Edge/GPRS/3G) only or in parallel with other services. Another 5 percent was to provide voice service and/or SMS/MMS without providing data service. When being compared with the proportion of services in 2012 by data service alone or in parallel with other services, there was only 12 percent and voice services and/or SMS/MMS was 88 percent. It can be seen that in 2013, service providers tried as much as possible to attract consumers to use more data service especially on 3G.

Graph 57: Number of Promotional Packages of the 3 Incumbents in 2013





and the Proportion of Services



4) Different Service Fees for Mobile Phone Services

Besides the consumers' enthusiasm with the introduction of 3G mobile phone services and the sale promotions that emphasized data services, the different service fees for mobile phone services has reduced in 2013. The important changing point that affects the reduction of different service fees for mobile phone services, stemmed from the NBTC's policy for the three big service providers that won the bidding for licenses of 2.1GHz (3G). There was a need to reduce the promotion fees for 2.1GHz by 15 percent which would have an effect on the new promotion which was to be launched from November 27, 2013. This 15 percent reduction was based on the service fee sale promotion dated December 7, 2012. The voice fee prior to reduction was THB0.97 per minute which was reduced to THB0.82 per minute. Internet service fee prior to reduction was THB0.33 per Mbps, reduced to THB0.28 per Mbps. SMS service fee was previously THB1.56 per message, reduced to THB1.33 per message. MMS service fee was previously THB3.90, reduced to THB3.32 per message. The three service providers have strictly adhered to the regulations.

However, in the analysis of service fees, the calculation of the service fee was based on the income of the service provider per minute/MB/message. It was different from the NBTC's policy calculation criteria for the average service fee that had to be reduced by 15 percent, which was based on the service fee of sale promotion. The reason of the calculation criteria based on the income of service provider per minute/MB/message as presented in the analysis report was because of using the sale promotion service fee and the market service fee. The service provider may provide additional usage of services for consumers in order to make the service more



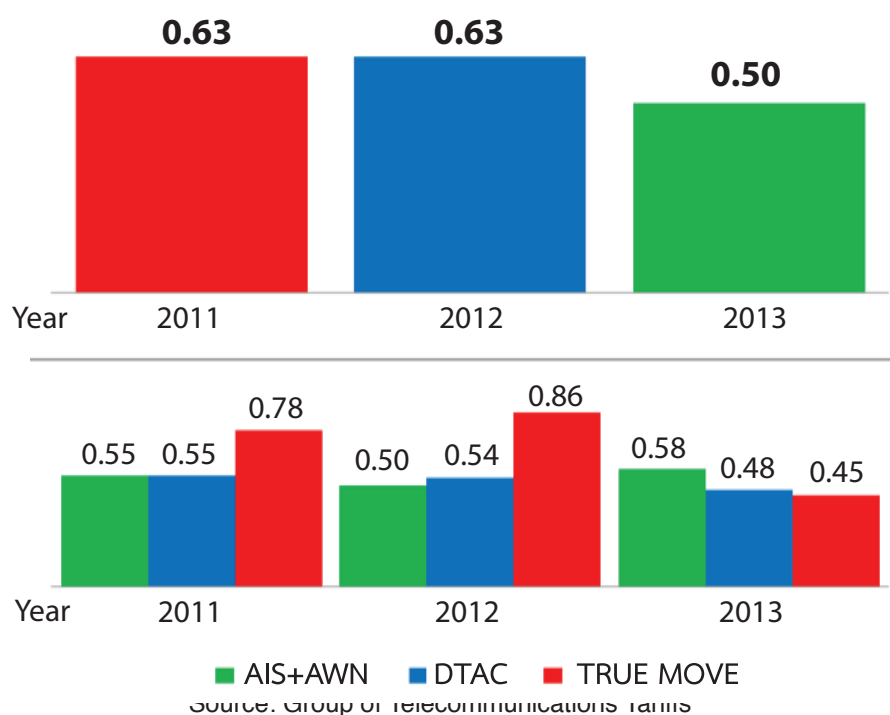


interesting. This may not be a true reflection of the service fee if we were to compare the service fee with the real usage of services. Therefore, in order that the analysis of service fee was closer to reality, the calculation based on the income of service provider per minute/MB/message was the most appropriate way.

- Voice Service Fee

The voice service fee for the three service providers decreased from THB0.63 per minute in 2012 to THB0.50 per minute in 2013, equivalent to a reduction of 20.63 percent. The lowest-price service provider for voice service was True Move at THB0.45 per minute, which was lower than last year's THB0.41 or 47.67 percent. The service provider with the second lowest fee for voice service was DTAC at THB0.48 per minute, reduced from last year's THB0.06 or 11.11 percent. The service provider with the highest voice service fee in 2013 was AIS+AWN at THB0.58 per minute – an increase of THB0.08 or 16 percent from the previous year, as shown in Chart 58.

Graph 58: The Overall Voice Service Fee and Service Fees of the 3 Incumbents during 2012-2013 (THB/Minute)



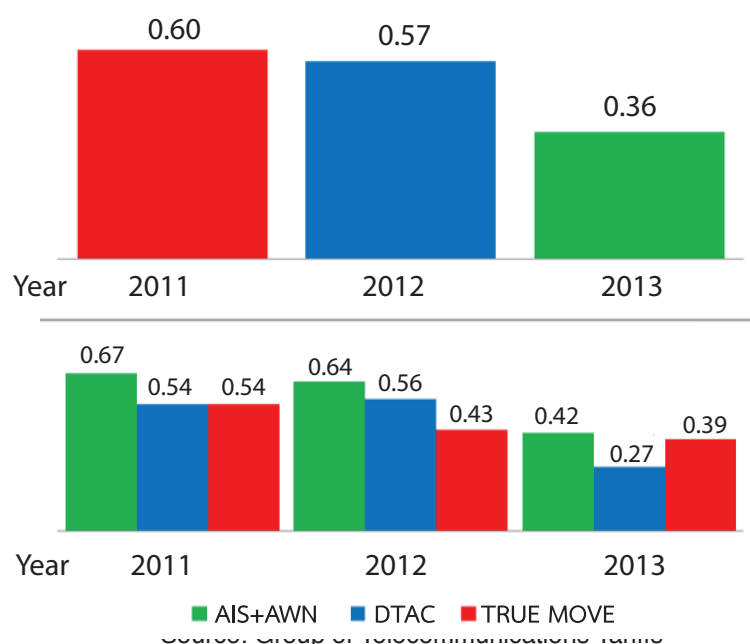
- SMS and MMS Service Fee





The SMS service fee reduced from THB0.57 per message in 2012 to THB0.36 per message in 2013 – a reduction of 36.84 percent. The service provider that had the lowest SMS service fee was DTAC at the rate of THB0.27 per message. This was a reduction from 2012 at THB0.29 or 51.78 percent. The service provider with the second lowest service fee for SMS was True Move at THB0.39 per message – a reduction from 2012 of THB0.04 or 9.3 percent. The service provider that had the highest SMS service fee in 2013 was AIS+AWN at THB0.42 per message. It was a reduction from 2012 of THB0.22 or 52.38 percent, as shown in Chart 59.

Graph 59: The Overall SMS Service Fee and the SMS Service Fee of the 3 Incumbents during 2011-2013 (THB/Message)



MMS service fee was reduced from THB1.21 in 2012 to THB 0.54 per message in 2013, equivalent to a 55.37 percent cut. The service provider who had the lowest MMS service fee was DTAC and AIS+AWN which was THB0.43 per message for both service providers. DTAC reduced from 2012 from THB0.92 or 68.14 percent and True Move reduced from 2012 at THB0.20 or 31.74 percent. The service provider that had the highest MMS service fee in 2013 was AIS+AWN which was THB0.71 per message, a reduction from 2012 at THB0.69 or 49.29 percent, as shown in Chart 59.

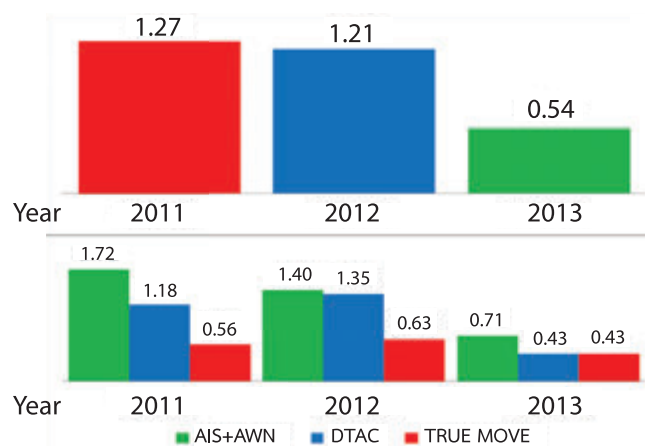
The reduction of SMS and MMS service fees of the three service providers was due to NBTC's policy to enforce a reduction of service fee for 3G by 115 percent from the criteria set. It also came from the reduction of service fee/the increase of consumption service for the purpose of attracting consumers to use the Bundled Package that also added on other services.

Graph 60: The Overall MMS Service Fee and the MMS Service Fee of the 3 Incumbents





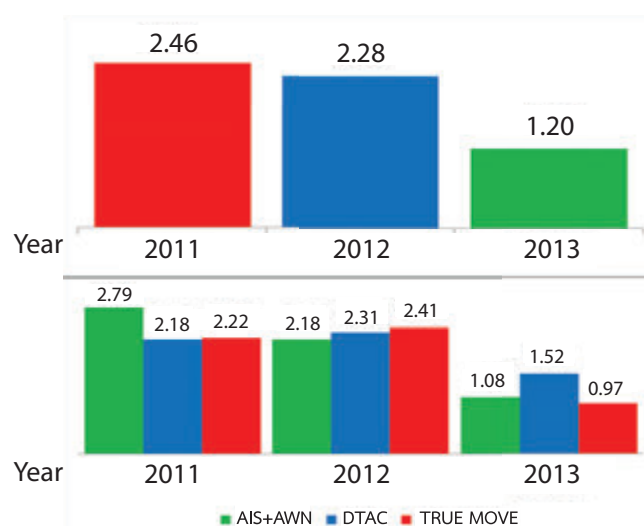
during 2012-2013 (THB/Message)



• Data Service Fees

In general, the data service fees of the three service providers reduced from THB2.28 per Mbps in 2012 to THB1.20 per Mbps in 2013, or equivalent to a reduction of 47.37 percent. The service provider that had the lowest data service fee was True Move, at THB0.97 per Mbps. It was reduced from THB1.44 or 59.75 percent in 2012. The service provider who had the second lowest data service fee was AIS+AWN at THB1.08 per Mbps, reduced from THB1.10 or 50.46 percent in 2012. The service provider that had the highest data service fee in 2013 was DTAC at THB1.52 per Mbps, a reduction from 2012 of THB0.79 or 34.20 percent, as shown in Chart 61.

Graph 61: The Overall Data Service Fee and the Data Service Fee of the 3 Incumbents during 2011-2013 (THB/Mbps)



Source: Group of Telecommunications Tariffs

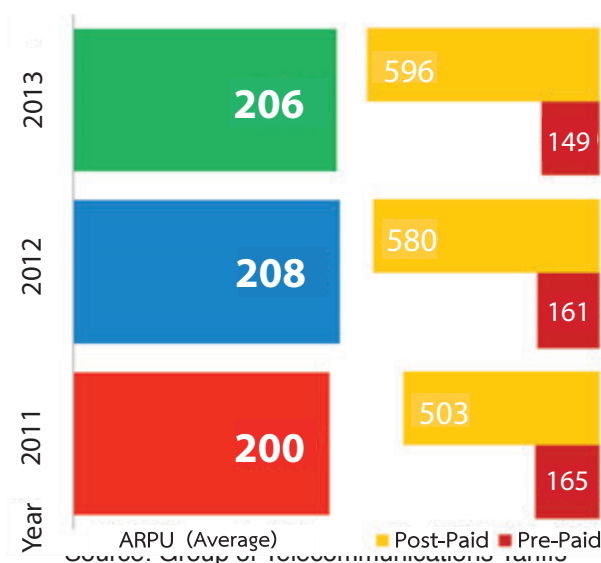
5) Average Revenue per User (APRU) per Month for Mobile Phone Service





From the total numbers of 92,463,323 mobile phones subscribers in Thailand in 2013, 80,808,904 subscribers used pre-paid service – an increase of 6,846,697 numbers from 2012. The proportion of pre-paid/post-paid was 87 percent which was a reduction of 1 percent from 2012. The post-paid service increased to 1,732,420 numbers from 2012, which was equivalent to the increase in pre-paid/post-paid service ratio of 13 percent – an increase of 1 percent from 2012. Although the number of subscribers has increased, the average revenue per user/month/number in 2013 was slightly lower from THB208 in 2012 to THB206 in 2013 or 1 percent, as shown in Chart 61. The small reduction of ARPU in 2013 had a major significance in the marketing service of mobile phone in Thailand. It still had a potential for higher growth and could still earn income for the service providers at a level not lower as in the past with the enforcement of NBTC's policy on 3G service to reduce to 15 percent following the set criteria.

Graph 62: Average Revenue per User/Month/Number on Mobile Phone Service during 2011-2013 (THB/Number)



C. Broadband Internet Service





1) Service Provider in Broadband Internet Market

At present, there are three major service providers for broadband internet services: TOT Public Co., Ltd. (TOT), True Corporation Public Co., Ltd. (True) and Triple T Broadband Public Co., Ltd. (3BB). For analysis of broadband internet service, only three service providers were chosen (TOT, TRUE and 3BB), as shown in Table 95. Though there are other broadband internet service providers, the combined number of their subscribers were insignificant.

Table 95: Broadband Internet Service Providers

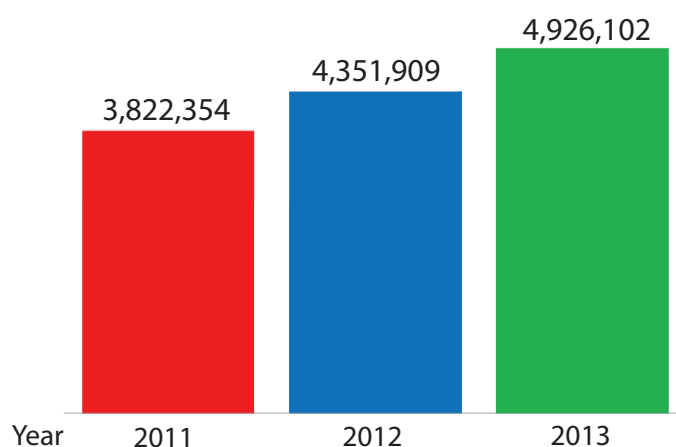
Service Providers for Broadband Internet
1. TOT Public Co., Ltd.
2. True Corporation Public Co., Ltd.
3. TT&T Public Co., Ltd. (3BB)
4. Other service providers

Source: Group of Telecommunications Tariffs

2) Numbers of Broadband Internet Subscribers

The broadband internet service is popular and the number of subscribers was increasing continuously. In 2013, there were 4,926,102 subscribers, on which there was an increase of 574,193, or 13.19 percent, over 2012, as shown in Chart 63.

Graph 63: Numbers of Broadband Internet Subscribers during 2011-2013



Source: Group of Telecommunications Tariffs

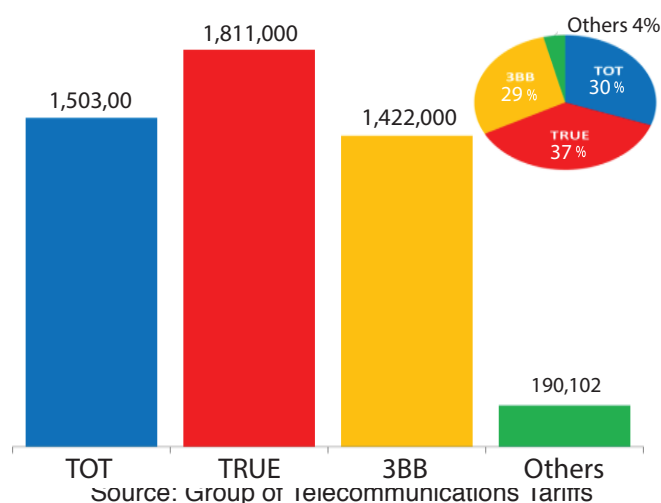
The service provider that has the biggest market share was True Corporation Public





Co., Ltd. (TRUE) with a share of 37 percent in 2013, or 1,811,000 subscribers. The number increased by 241,445 over 2012 (or +15.38 percent). The second biggest provider was TOT Public Co., Ltd. (TOT) with 30 percent, or 1,503,000 subscribers – an increase of 92,345 subscribers from 2012 (+6.54 percent). The third biggest was TT&T Public Co., Ltd. (3BB) with 29 percent, or 1,422,000 subscribers – an increase of 209,000 subscribers over 2012 (+17.23 percent). Other service providers had a combined market share of 4 percent, or 190,102 subscribers – an increase over 2012 of 31,403 subscribers (+19.79 percent), as shown in Chart 64.

Graph 64: Number of Broadband Internet Service Subscribers and Market Share in 2013



The increase of subscribers of broadband internet service is a result of the consumers' needs in residences, especially the use of smartphones or tablets to connect to a fast Wi-Fi system and it is more economical than connecting to a data service through mobile phones, which is part of the sale promotion of broadband internet service.

3) Sale Promotion of Broadband Internet Services

In 2013, there were 13 new sale promotion packages, of which TOT had four, TRUE had two and 3BB had seven items.

4) Service Fee for Broadband Internet Service

The calculation of the broadband internet service fee in this report, used the THB1.00 per unit (THB/kbps) since the current broadband internet service was a service for unlimited data. Therefore, the use of THB/kbps is a measure unit for service fee that was most appropriate for broadband internet service.

The service fee for broadband internet service in general depended on the three big service

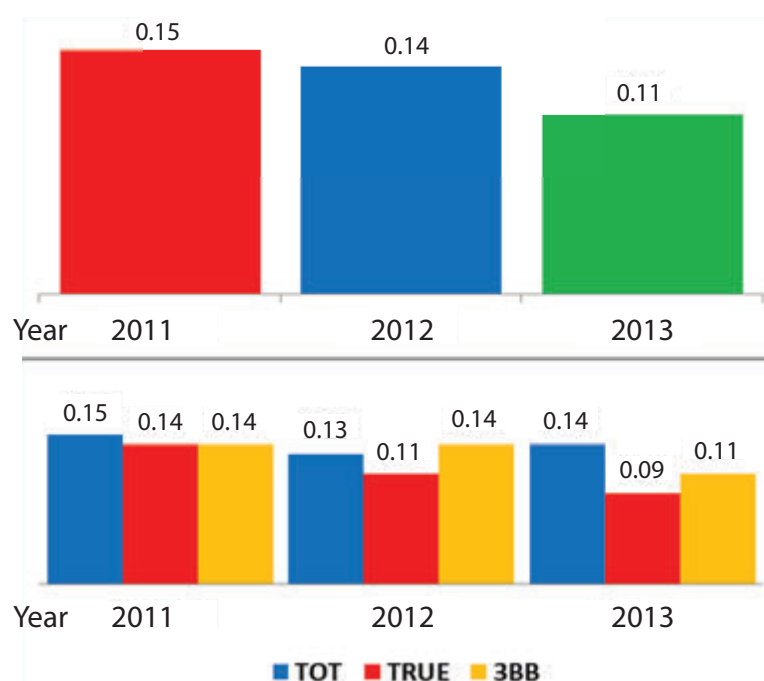




providers. The fee was reduced from THB0.14/kbps in 2012 to THB0.11/kbps in 2013 – a reduction of 21.43 percent. The service provider that had the lowest broadband internet service fee was TRUE with the rate of THB0.09/kbps – a reduction from 2012 of THB0.02 or 18.18 percent. The second lowest service provider for broadband internet service fee in 2013 was TOT with the rate of THB0.14 per minute – an increase of THB0.01, or 7.14 percent over 2012, as shown in Chart 64.

The reduction in service fee for broadband internet service for TRUE and 3BB was a normal reduction to be able to compete in the market. The reason for the small increase in the rate of service fee for TOT was because it included the service fee for a higher speed sale promotion for the broadband internet service. However, TOT had several sale promotions (including sale promotion in 2012 that is still on). The service fee, in general for TOT, has, therefore, not been increased as much for 2013.

Graph 65: Rate of Broadband Internet Service and Rate of Main Service Providers during 2011-2013



Source: Group of Telecommunications Tariffs

5) Average Revenue per User (APRU) for Broadband Internet Service





In 2013, the average revenue per user for service provider of broadband internet service was THB665, which was a small THB2.00 increase from 2012, or 0.3 percent. The reason for this small increase, even though the number of subscribers has increased by 13.19 percent, was because of the high competition in the broadband internet market. It was, therefore, necessary for service providers to reduce or maintain the service fee or create sale promotions that may help increase the service fee by providing more services to attract new consumers and to maintain the existing number of subscribers. Therefore, the average revenue per user of service providers for broadband internet has not changed much from the past.

d. International Telephone Services

1) Service Providers for International Telephone Services

At present, there are six service providers for international telephone services: CAT Telecommunications Public Co., Ltd. (CAT), TOT Public Co., Ltd. (TOT), DTAC Network Co., Ltd. (DTAC Network), AIN Global Communications Co., Ltd. (AIN), True International Communications Co., Ltd. (TIC) and Triple T Global Net Co., Ltd. (Triple T), as shown in Table 96.

Table 96: Number of Service Providers for International Telephone Services

Service Providers for International Telephone Services	Dialing Prefix	
	Premium	VoIP
1. CAT Telecommunications Public Co., Ltd. (CAT)	001, 100	008
2. TOT Public Co., Ltd. (TOT)	007	-
3. DTAC Network Co., Ltd. (DTAC Network)	004	-
4. AIN Global Communications Co., Ltd. (AIN)	005	00500
5. True International Communications Co., Ltd. (TIC)	006	00600
6. Triple T Global Net Co., Ltd. (Triple T)	102	-

Source: Group of Telecommunications Tariffs

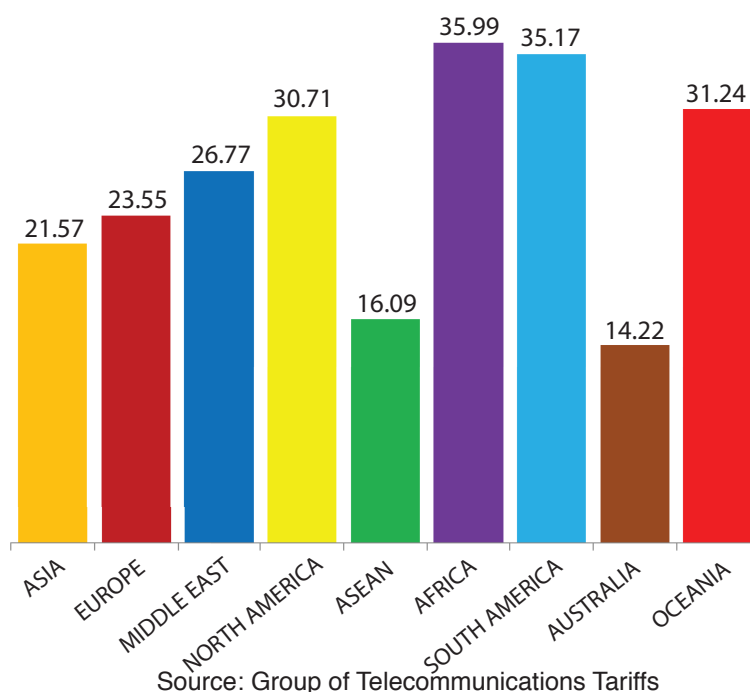
2) Service Fee for International Telephone Services





For 2013, the average service fee for international telephone services has increased for all regions at the rate of 15.14 percent, as shown in Chart 66.

**Graph 66: Average Rates for International Telephone Services Within Region in 2013
(THB/Minute)**



The analysis showed that the average service fee of the region for international phone services has the lowest average service fee. The international phone service between Thailand and Australian continent is THB14.22 per minute, as shown in Chart 66. CAT (009) has the lowest service fee in this region at THB9.00 per minute. The second region that has the lowest service fee for international phone service was from Thailand to other ASEAN countries at THB16.09 per minute, as in Chart 67, with CAT (009) the cheapest service provider in the region at THB7.22 per minute. The third region with the lowest service fee for international phone service was from Thailand to countries in Asian Region at THB21.75 per minute, as shown in Chart 68. TOT (008) was the service provider that offers the lowest service fee in this region at THB15.06 per minute. The next region that has the lowest average service fee for international phone service was from Thailand to countries in Europe, with the service fee of THB23.55 per minute, as shown in Chart 69. CAT (009) was the service provider that offers the lowest service fee in this region at the rate of THB16.37 per minute. The second lowest region that has the lowest average service fee for international phone service was from Thailand to countries in the Middle East at the rate of THB26.77 per minute, as shown in Chart 70. CAT (009) was the service provider that offers the lowest service fee in this

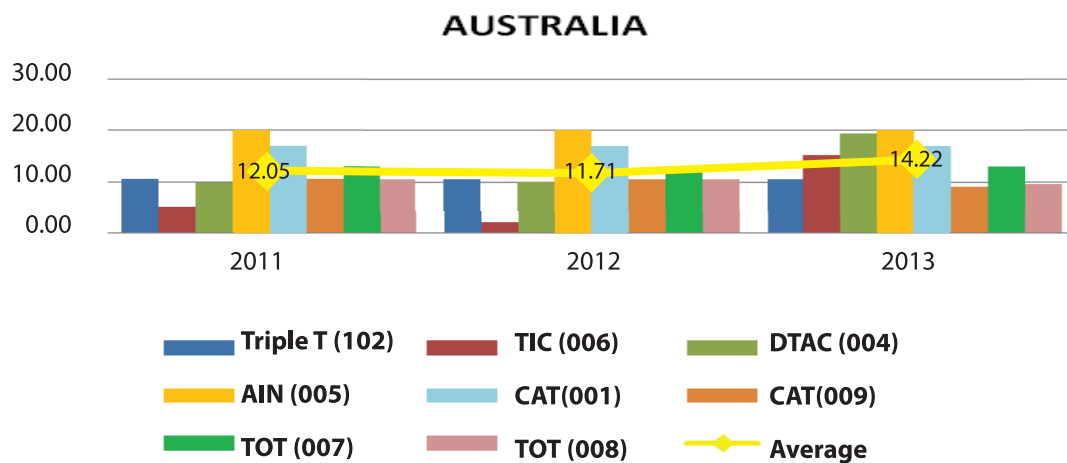




region at THB17.79 per minute. The next region that has the lowest average service fee for international phone service was from Thailand to countries in North America at the rate of THB30.71 per minute, as shown in Chart 71 and CAT (009) was the service provider which offers the lowest service fee in this region at the rate of THB23.68 per minute.

The analysis of the highest average service fee for international phone service showed that the third highest average service fee was the international phone service from Thailand to countries in the Oceania which was at the rate of THB31.24 per minute, as shown in Chart 72. TOT (008) was the service provider that has the lowest service fee in this region at the rate of THB21.11 per minute. The second rank region that has the highest average service fee was from Thailand to countries in South America which was at the rate of THB35.17 per minute, as shown in Chart 73. CAT (009) was the service provider which offers the lowest service fee in this region at the rate of THB26.58 per minute. The region that has the highest average service fee was from Thailand to countries in Africa at the rate of THB35.99 per minute, as shown in Chart 67. CAT (009) was the service provider that has the lowest service fee in this region at the rate of THB28.54 per minute.

Graph 67: International Call Rates from Thailand to Australia during 2011-2013 (THB/Minute)

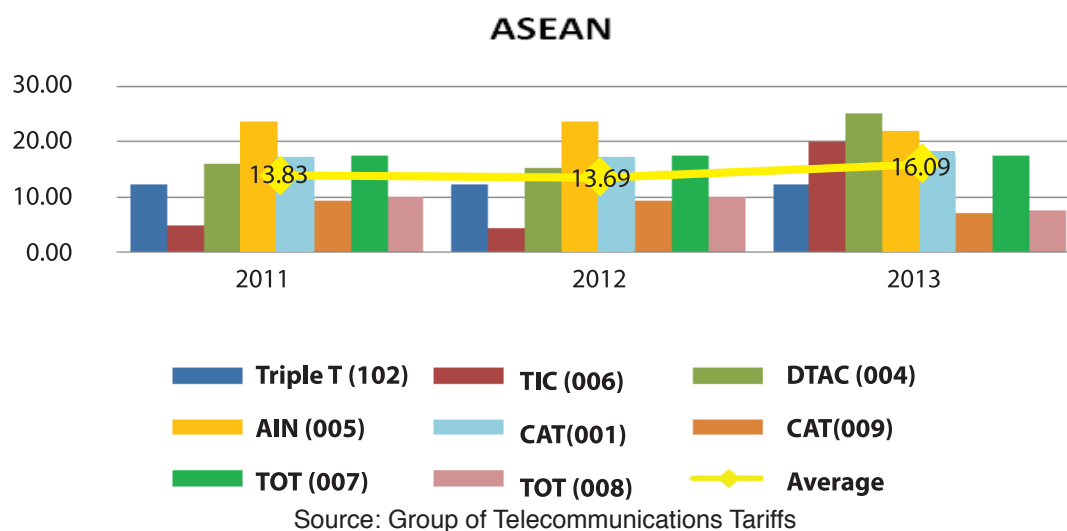


Graph 68: International Call Rates from Thailand to ASEAN Countries during 2011-2013

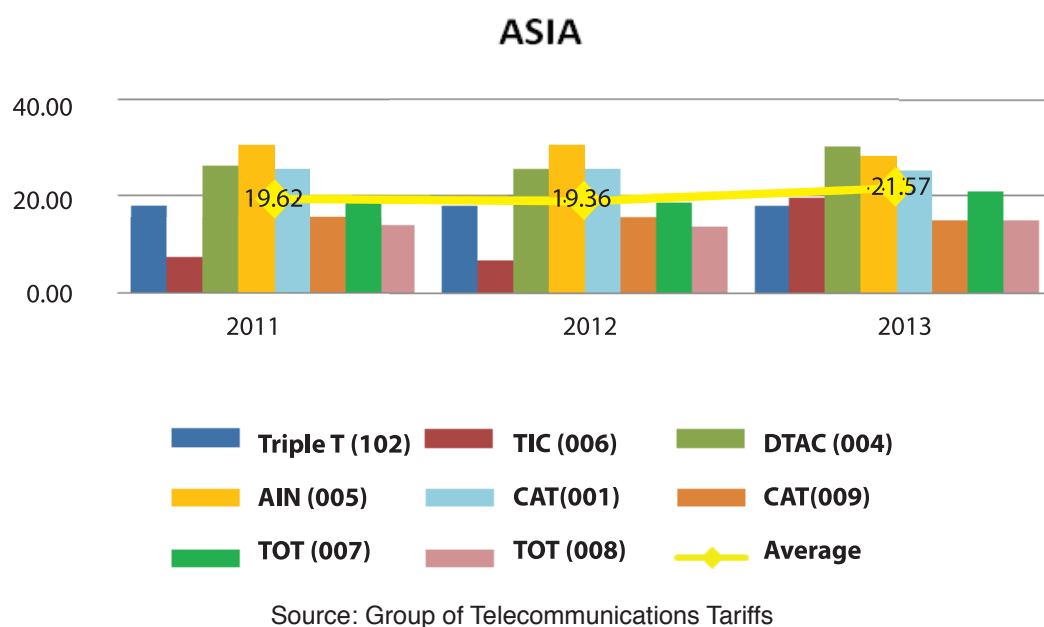




(THB/Minute)



Graph 69: International Call Rates from Thailand to Asia Continent during 2011-2013
(THB/Minute)

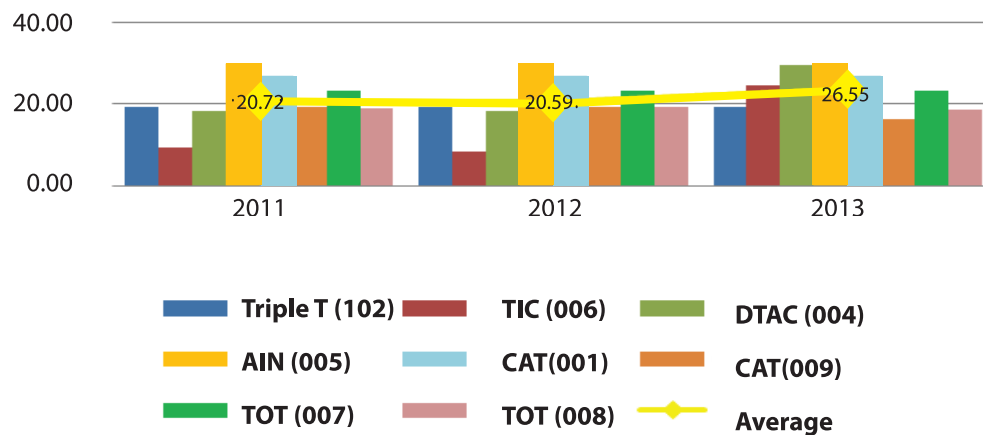


Graph 70: International Call Rates from Thailand to Countries in Europe during 2011-2013

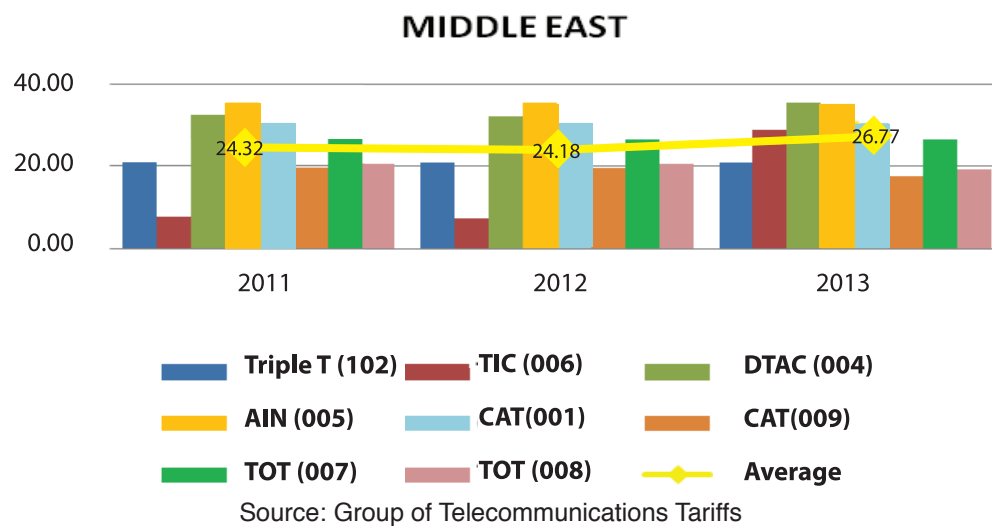


(THB/Minute)

EUROPE



Graph 71: International Call Rates from Thailand to Middle Eastern Countries during 2011-2013
(THB/Minute)

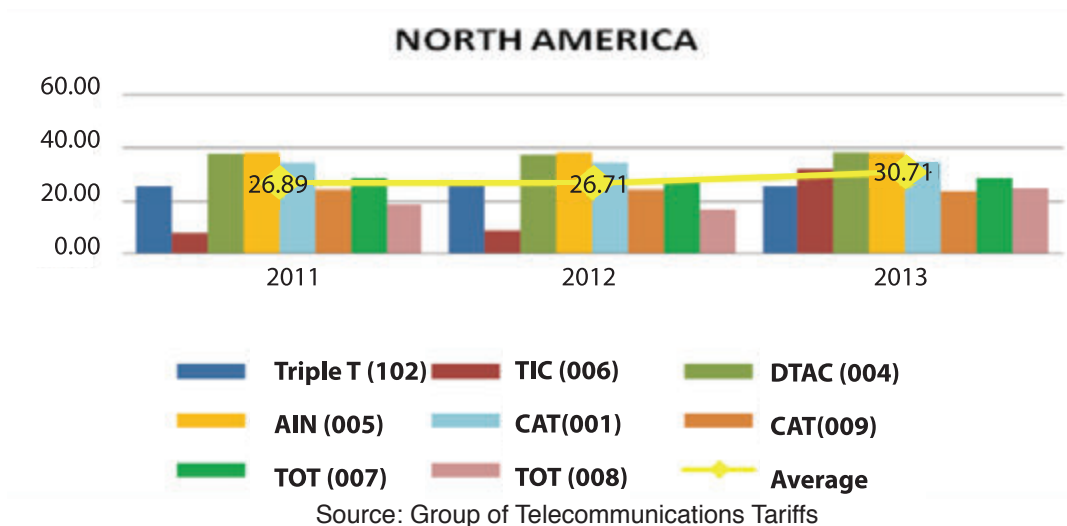


Graph 72: International Call Rates from Thailand to North America during 2011-2013

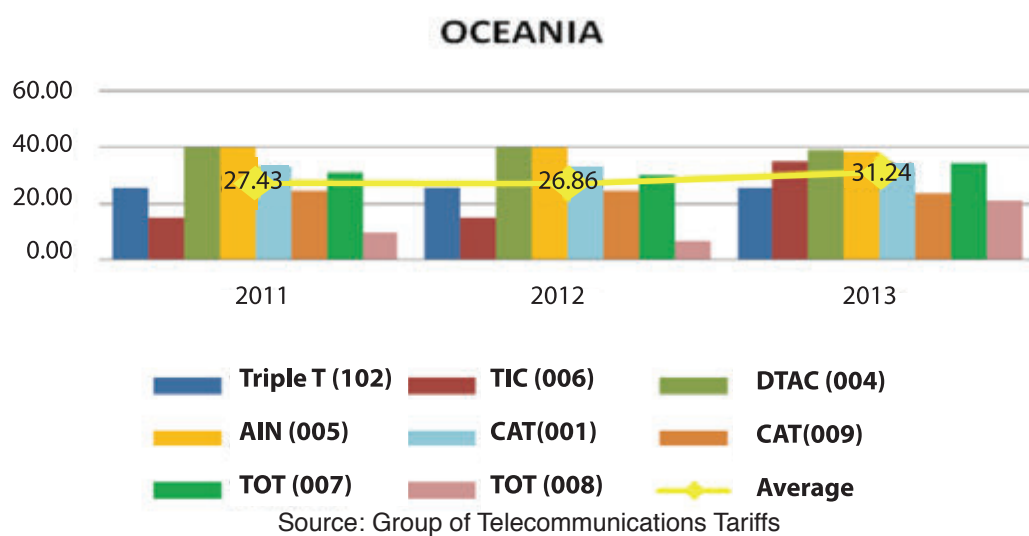




(THB/Minute)



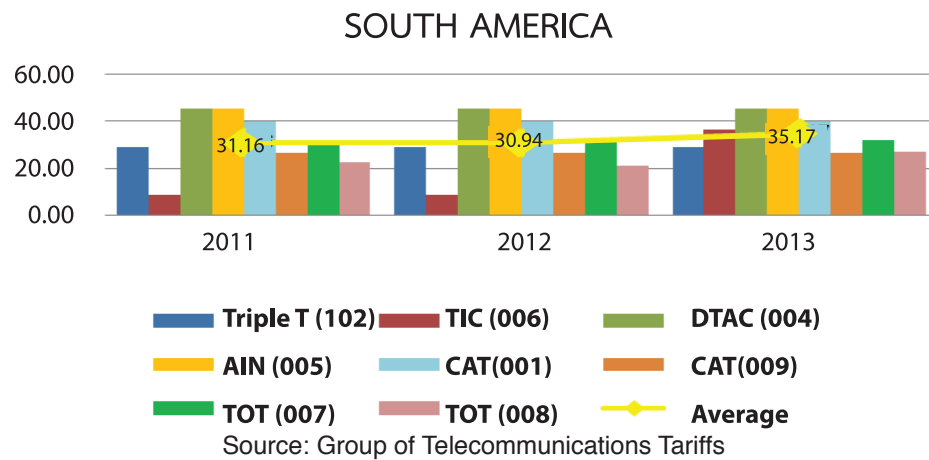
Graph 73: International Call Rates from Thailand to The Oceania during 2011-2013
(THB/Minute)



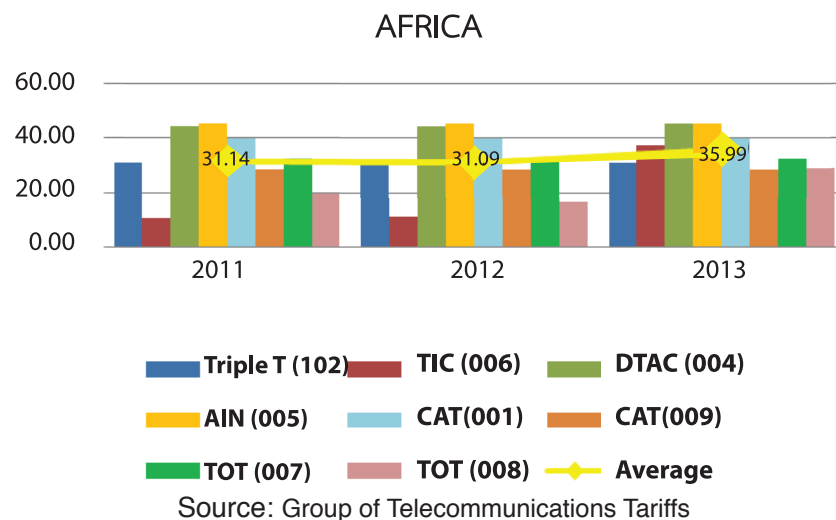
Graph 74: International Call Rates from Thailand to South America during 2011-2013



(THB/Minute)



Graph 75: International Call Rates from Thailand to Africa during 2011-2013 (THB/Minute)



The increase of the average service fee could be due to the changes of the contract between the service provider and the different regions. In 2013, it could be seen that CAT (009) was the service provider that had the lowest service fees in seven regions out of the nine regions in the world. As for the other two regions, TOT (008) had the lowest service fees. The reason CAT (009) was able to provide the lowest service fees in seven out of nine regions was because CAT was the service provider in Thailand who had the most International gateways (network link among countries). Therefore, it was able to reduce the cost of connection among countries by itself.



Section 6

2013 Budget



NBTC Budget Report 2013

In 2013, the Office of the NBTC implements the work plan for the year 2013, with a project budget commitment over the years and major projects related to the mission of the Broadcasting and Telecommunications, also with the mission of regional and integration. As well as the missions that supports the organization management of the Office of the NBTC. The results of operations as shown in Table 97, and the comparing of the expenditure budget between the year 2012 and the year 2013 as shown in Table 98.

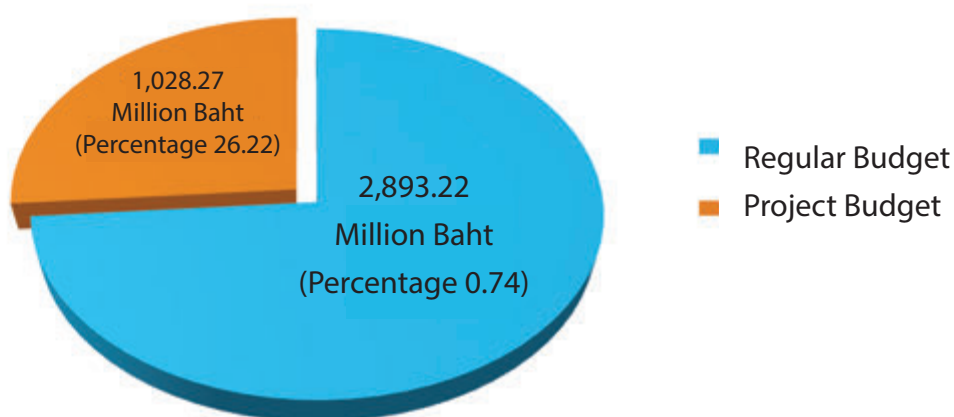
Table 97: The Expenditure Budget in 2013

Unit : Million Baht

Details	Budget	Expenses
2013 Annual Budget	4,115,959,500.00	3,794,796,432.34
1. NBTC's and the Office of the NBTC Expenses	2,893,219,900.00	2,701,944,490.60
2. Other Needed Expenses	1,028,272,900.00	989,106,540.00
3. Contribution to the Fund	50,000,000.00	50,000,000.00
4. Reserve Budget for Contingencies	144,466,700.00	53,745,400.80

Source : Group of Strategic and Budget

**Graph 76: The Comparison of the Expenditure Budget in 2013
(Expenditure and Project Budget)**

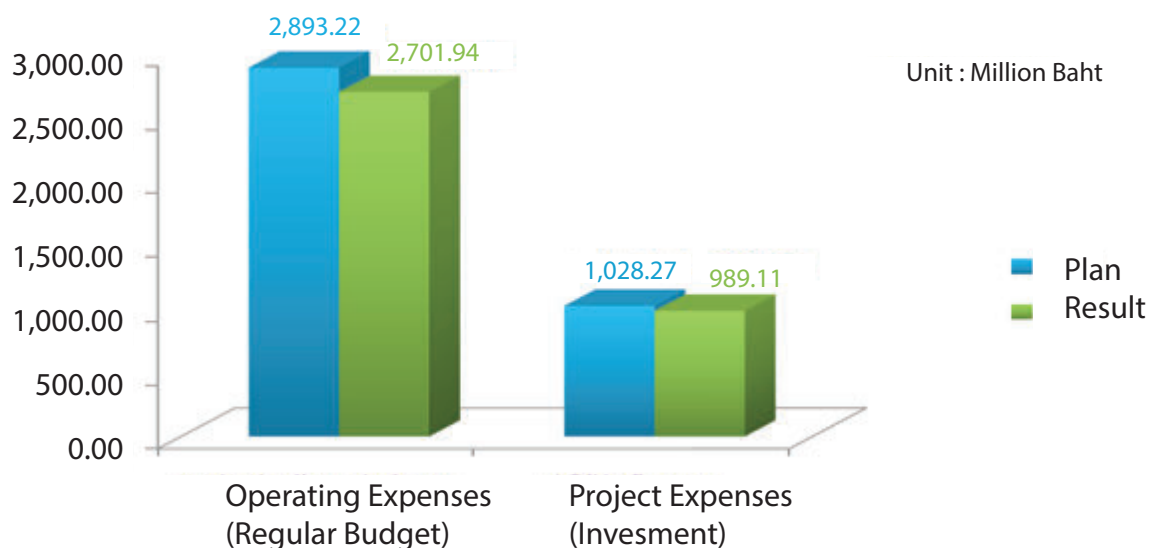


Source : Group of Strategic and Budget





**Graph 77: The Comparison of the Allocated Budget and the Expenditure
Budget in 2013 (Expenditure and Project Budget)**



Source : Group of Strategic and Budget

Table 98: The Expenditure Budget Comparison between 2012 and 2013

Details	Budget	Expenses
1. NBTC's and the Office of the NBTC Expenses	2,423,398,848.14	2,701,944,490.60
2. Other Needed Expenses	904,092,477.06	989,106,540.94
3. Contribution to the Fund	75,000,000.00	50,000,000.00
4. Reserve Budget for Contingencies	80,000,000.00	53,745,400.80
Total	3,482,491,325.20	3,794,796,432.34

Source : Group of Strategic and Budget





The Office of the National Broadcasting and Telecommunications Commission Financial Statements as of 31 December 2013 and 2012

Assets	Note	2013	Unit: Baht 2012
Current Assets			
Cash and Cash Equivalents	3	7,580,961,441.05	3,667,128,429.88
Short-Term Investments	4	6,705,320,527.73	4,496,797,118.38
Receivable from License Fee	5	43,681,626.24	64,571,144.05
Accrued Income	6	3,329,070,000.00	3,113,125,045.85
Prepaid Expenses	7	7,091,784.46	2,456,067.51
Other Current Assets	8	87,348,217.86	43,477,664.51
Total Current Assets		<u>17,753,473,597.34</u>	<u>11,387,555,469.68</u>
Non-Current Assets			
Long-Term Investments		0.00	200,000,000.00
Net Building and Durable Articles	2.6,9	994,282,761.29	845,403,313.77
Net Intangible Assets	2.7,10	59,687,300.79	16,612,346.48
Total Non-Current Assets		<u>1,053,970,062.08</u>	<u>1,062,015,660.25</u>
Total Assets		<u>18,807,443,659.42</u>	<u>12,449,571,129.93</u>

Notes to Financial statements are an integral part of these Financial Statements.

The above Financial statement is to be certified by the Office of the Auditor General of Thailand





**The Office of the National Broadcasting and Telecommunications
Commission Financial Statements
as of 31 December 2013 and 2012**

Liabilities and Equity	Note	2013	Unit:Baht 2012
Current Liabilities			
Creditors and Notes Payable	11	1,264,595,755.09	309,573,598.87
Advance Revenue	12	67,573,820.34	66,079,598.87
Government Revenue in Transit to the Treasury	13	607,813,757.04	2,548,531,091.42
Guarantee of TV Digital's Auction		2,271,000,000.00	0.00
Other Current Liabilities	14	100,717,602.84	108,114,194.58
Total Current Liabilities		4,311,700,935.31	3,302,298,321.62
Non-current Liabilities			
Deferred Revenue-Monetary	2.8,15	68,406,351.76	56,994,162.34
Radiocommunication Equipment Rental and Spectrum Fee held in Trust	2.5	31,900,085.86	32,683,499.63
Other Non-Current Liabilities	16	43,519,451.76	36,580,906.08
Total Non-Current Liabilities		120,835,889.38	126,258,568.05
Total Liabilities		4,432,536,824.69	3,158,556,889.67
Equity			
Capital	17	198,325,867.44	198,325,867.44
Excess of Revenues Over Accumulated Expenses	17	14,176,580,967.29	9,092,688,372.82
Total Equity		14,374,906,834.73	9,291,014,240.26
Total Liabilities and Equity		18,807,443,659.42	12,449,571,129.93

Notes to Financial statements are an integral part of these Financial Statements.

The above Financial statement is to be certified by the Office of the Auditor General of Thailand





The Office of the National Broadcasting and Telecommunications Commission

Statement of Operating Performance

as of 31 December 2013 and 2012

Telecommunications Operating Revenue	Note	2013	Unit: Baht 2012
Revenue from the Auction of 2.1 GHz IMT		0.00	20,880,459,924.66
Remuneration for Radiocommunication Spectrum		122,297,503.61	129,339,089.20
Radiocommunication License Fee		135,834,825.00	94,407,275.00
Telecommunication Business License Fee		783,801,590.86	15,608,840,142.27
Numbering Fee		3,096,088,777.69	2,304,649,221.75
Other Fee – Telecommunications		11,828,263.98	12,526,326.63
Total of Telecommunication Operating Revenue		4,149,850,691.14	24,982,265,979.51
Broadcasting and Television Commission			
Broadcasting License Fee		13,573,341.68	40,800.00
Television License Fee		0.00	25,584,621.78
Trial Broadcasting and Telecommunication Operating Fee		30,026,000.00	14,946,500.00
License Fee by the Law Section 70		41,416,990.00	815,760.00
Other Fee – Broadcasting and Television		52,164,885.00	0.00
Total of Broadcasting and Television Revenue		137,181,216.68	41,387,681.78
Research and Development Fund, Other Revenue			
Contribution to Development Fund – Licensee (Contribute to USO Project)	2.14	5,125,588,442.93	2,723,838,758.47
Revenue from 1 Por Nor Radio Station		44,779,439.30	40,519,083.55
Interest Received		320,700,298.99	256,513,202.16
Other Revenue		64,073,103.60	58,976,490.47
Total of R&D Fund, Other Revenue		5,555,141,284.82	3,079,847,534.65
Total Revenue		9,842,173,462.64	28,103,501,195.94





The Office of the National Broadcasting and Telecommunications Commission
Statement of Operating Performance
as of 31 December 2013 and 2012

Operating Expense	Note	Unit: Baht	
		2013	2012
Revenue from the Auction of 2.1 GHz IMT		0.00	20,843,769,963.43
Spectrum remit to the Treasury		0.00	36,689,961.23
Expense from the auction of 2.1 GHz IMT Spectrum			
Human Resource Expense	18	925,013,231.47	796,998,593.71
Operating Expense	19	1,856,952,859.75	1,430,772,058.91
Public Utilities Expense	20	49,975,859.75	47,326,903.13
Depreciation	21	254,441,677.20	215,516,022.39
Contributions to Education, Research and Development Telecommunication	22	106,109,672.20	81,873,213.90
Contributions to Telecommunications Development Fund		952,100,000.00	0.00
Contributions to Technology Development Fund for Education		10,000,000.00	25,000,000.00
Total Expense		<u>4,154,592,548.90</u>	<u>23,477,946,716.70</u>
Net Excess of Revenues over (under) Expenses		<u>5,687,580,913.74</u>	<u>4,625,554,479.24</u>

Notes to Financial Statements are an integral part of this Financial Statement.

The above Financial Statement is not certifying by the Office of the Auditor General of Thailand.





The Office of the National Broadcasting and Telecommunications Commission
Statement of Changes of Cost
As of 31 December 2013 and 2012

	Cost	Revenues over Accumulated Expenses			Unit : Baht
		Rev. over Accu. Exp.	Remit to Gov. Rev.	Total	
Balance as on 31 December 2011	198,325,867.44	16,484,253,024.02	(10,897,184,122.59)	5,587,068,901.43	5,785,394,768.87
Reversing Entry	0.00	0.00	0.00	0.00	0.00
Revenues over (under) Net Expenses	0.00	4,625,554,479.24	0.00	4,625,554,479.24	4,625,554,479.24
Remit to Government Revenue	0.00	0.00	(1,119,935,007.85)	(1,119,935,007.85)	(1,119,935,007.85)
Balance as on 31 December 2012	198,325,867.44	21,109,807,503.26	(12,017,119,130.44)	9,092,688,372.82	9,291,014,240.26
Revenues over (under) Net Expenses	0.00	5,687,580,913.74	0.00	5,687,580,913.74	5,687,580,913.74
Remit to Government Revenue	0.00	0.00	(603,688,319.27)	(603,688,319.27)	(603,688,319.27)
Balance as on 31 December 2013	198,325,867.44	26,797,388,417.00	(12,620,807,449.71)	14,176,580,967.29	14,374,906,834.73

Notes to Financial Statements are an integral part of this Financial Statement.
The above Financial Statement is not certifying by the Office of the Auditor General of Thailand.



**The Office of the National Broadcasting and Telecommunications
Commission Cash Flow Statement for the Fiscal Year ended
31 December 2013 and 2012**

	Unit: Baht
	2013
	2012
Cash Flows from Operating Activities	
Net access of revenues over net expenses	5,687,580,913.74
Reconciled to net cash flow from operating activities	4,625,554,479.24
Depreciation and Amortization	254,441,677.20
Deferred revenue from donated durable articles	215,516,022.39
Decrease (increase) in receivables	(11,577,810.58)
Decrease (increase) in accrued income	(11,827,413.32)
Decrease (increase) in prepaid expenses	20,889,517.81
Decrease (increase) in other current assets	(6,222,304.70)
Increase (decrease) in creditors and note payables	(215,944,954.15)
Increase (decrease) in advance revenue	(2,304,985,831.90)
Guarantee of TV Digital's auction	(4,635,716.95)
Increase (decrease) in other current liabilities	5,897,522.21
Increase (decrease) in government revenue in transit to the Treasury	(43,870,553.85)
Increase (decrease) in radiocommunication equipment rental held in trust	11,615,870.59
Increase (decrease) in other non-current liabilities	955,022,156.22
Net Cash from Operating Activities	68,928,446.00
	1,494,383.59
	5,657,321.02
	2,271,000,000.00
	0.00
	(7,396,591.74)
	(472,689,828.93)
	(3,999,218.76)
	1,070,108.98
	(783,413.77)
	(1,052,748.92)
	6,938,545.68
	15,052,861.06
	8,909,158,934.44
	2,152,334,503.72
Net Cash for Investing Activities	
Decrease (increase) in short-term investment	(2,208,523,409.35)
Decrease (increase) in long-term investment	(2,421,459,706.03)
Decrease (increase) in buildings and durable articles	200,000,000.00
Decrease (increase) in intangible assets	(382,566,369.22)
Net Cash from Investing Activities	(271,666,608.82)
	(63,829,709.81)
	(8,441,949.07)
	(2,454,919,488.38)
	(2,501,568,263.92)
Cash Flow from Monetary Acquires Activities	
Surplus to be remitted as government revenue	(2,540,406,434.89)
Net Cash from Monetary Acquires Activities	(1,654,962,437.63)
Increase (decrease) in cash and cash equivalents	(2,540,406,434.89)
Cash and cash equivalents at the beginning of accounting period	(1,654,962,437.63)
Cash and cash equivalents at the ending of accounting period	3,913,833,011.17
	(2,004,196,197.83)
	3,667,128,429.88
	5,671,324,627.71
	7,580,961,441.05
	3,667,128,429.88

Notes to Financial Statements are an Integral Part of these Financial Statements.

The Above Financial Statement Is to be Certified by the Office of the Auditor General of Thailand.





The Office of the National Broadcasting and Telecommunications Commission Notes to Financial Statements for the Fiscal Year Ended 31 December 2013 and 2012

1. History

“The Office of the National Broadcasting and Telecommunications Commission,” also known as “the Office of the NBTC” is a State Agency having the status of a juristic person with duties and all affairs transferred from the Office of the “National Telecommunications Commission” or “the Office of the NTC” by virtue of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) with responsibilities to regulate and develop telecommunications services. The National Broadcasting and Telecommunications Commission or “the NBTC” has set up policies, criteria, procedures, conditions, fees, and other rules on matters related to licensing and regulation of radio frequency usage, provision of broadcasting and telecommunication services, number usages, telecommunications network interconnection or access, prevention of monopoly or unfair competition, consumers protection as well as provision of broadcasting and telecommunications services to all people.

The main office of the Office of the NBTC is located at 87 Soi 8 (Sailom), Phaholyothin Road, Samsennai, Phayathai, Bangkok 10400.

According to Section 65 of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), major sources of the Office of the NBTC’s income shall be derived from the followings:

- (1) Spectrum license fees and business license fees under Section 42 paragraph two and Section 45 paragraph three.
- (2) Revenues or benefits accrued from the conduct of duties of the NBTC and the Office of the NBTC.
- (3) Revenues derived from the Office of the NBTC’s property.
- (4) Money and property donated to the Office of the NBTC in accordance with the regulation set forth by the NBTC for the work of the Office.
- (5) Subsidies from the government.

Revenues of the Office under (1) and (2) after deducting by expenditures for efficient conduct of the Office, necessary burden costs, and money allocated for the Fund under Section 52 and the Technology Development Fund for Education under the law on national education shall be remitted to the state treasury.





2. Major Accounting Policies

The Policies of Significant Accounting used in the preparation of the financial statements of the office, as follow:

2.1 Basis of Financial Statement Preparation

The financial statements of the Office of the NBTC have been prepared in accordance with the general accepted accounting principles under the Accounting Act B.E. 2543 (2000) including the accounting standard issued under the Accounting Professions Act B.E. 2547 (2004). These financial statements are recorded on the accrual basis and employed the historical cost basis to appraise the value of the elements included, except those specifically stated in other accounting policies.

The Office of the NBTC's accounting period is starting from 1 January to 31 December every year, by which the first accounting period started from 20 to 31 December 2010

2.2 Cash and Cash Equivalents

Cash and cash equivalents are stated at cost, comprising cash on hand, deposits held at call with banks and cash in bank accounts in classification of less than and 3-month fixed-term account.

2.3 Short-Term Investment

Short-term investment is the cash in bank accounts in classification of 3-month fixed-term account from the date of acquisition but not longer than 12 months.

2.4 Fee Receivables/Accrued Income

Fee receivables/Accrued Income shown by net value receivable estimation, doubtful receivables considering from doubtful accounts which are expected to be collection loss.

2.5 Receivables of Radiocommunication equipment rental fees

Receivables of Radiocommunication equipment rental fee is the receivables that the Office of the NBTC collected on behalf of the Ministry of Finance. The entry will be recorded in double with the radiocommunications equipment rental receivables account. Radiocommunication equipment rental receivables account is the account setting up in pair with the account of radiocommunications equipment rental. When the amount is paid by the debtors, there is a credit entry of radiocommunications equipment rental account will be transferred to the account of government revenues in transit to the Treasury-the radiocommunications equipment rental and violation fees.

2.6 Net Building and Durable Articles

Net Building and Durable Articles is stated at cost, less accumulated depreciation. Depreciation is calculated on a straight line basis over the following useful lives:

Asset Types	Estimated Useful Lives (Years)
Buildings	5-20 (Depend on Construction Materials)
Electrical and radio equipment	5
Computer equipment	3
Vehicles and transportation	8
Office supplies and others	2-15





Guideline for the Recognition of Buildings, Establishments, Durable Articles and Equipments.

- 1997 – 2002
 - Durable articles and equipment to be recognized as asset must have historical cost from purchasing or acquisition at price per unit, set, or group not less than 30,000 Baht
 - Durable articles and equipments that purchased or acquired before B.E. 2540 do not beat the price. But must be registering in Asset Control
- 2003 – 2007
 - Durable articles and equipment to be recognized as asset must have historical cost from purchasing or acquisition not less than 5,000 baht and must be classified in the standard durable articles account of the Office of the NBTC.
- 2008 – present
 - Durable articles and equipment to be recognized as set must have historical cost from purchasing or acquisition not less than 10,000 baht and must be classified in the standard durable articles account of the Office of the NBTC.

2.7 Net Intangible Assets

Net intangible assets will be recorded at cost after deducting accrued selling cost, the calculation of intangible as sets' selling cost utilizes the linear method of deducted depreciation according to their estimated useful lives. Accordingly, software must be at price not less than 50,000 baht to be recognized as intangible assets.

2.8 Fixed Assets Received from Donations

Fixed assets received from donations will be recorded as assets in pair with deferred revenue, and will be recognized as donation revenue and deducted depreciation according to their useful lives.

2.9 Surplus to be remitted as Government Revenue

Surplus to be remitted as government revenue or benefit accrued from (1) and (2) in any year which received in a year after deduct operating expenses of the NBTC and the Office of the NBTC, necessary obligations expenses which means the creditors having responsibility to pay for debts, reserved fund for overlapped disbursement between fiscal years, contributions to the Funds as prescribed by law must be remitted as government revenues. Also, necessary obligations expenses which are residual from the previous year must be remitted in the following year.

2.10 The proceeds from spectrum auction of 2.1 GHz IMT after deducting the cost of the auction with Interest will submit to the Land Revenue. According to the Regulation of Section 45 Paragraph 1 of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010)

2.11 License fees for using the Radio Frequency for Digital Television services, National Business Services type, will submit to the Research and Development of Broadcasting and Telecommunications Fund for Public Interest. And the minimum of fee will be providing to support the people to get services of the Broadcasting and Telecommunications thoroughly. According to the type of the National Broadcasting and Telecommunications Commission in the Regulations, Procedures and Conditions for the Auction of Radio Frequency in Digital Television service, National Business Services type of the Year 2013 and Section 53 (2) of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010).





2.12 Employee Benefit of the Office of the NBTC, there provides the Basic Welfare and Social Insurance. At least, to supporting the children's education, Healthcare, the Victims Relief, Aid in case of cause death and the other welfares, that is Welfare Loans, Housing Welfare, Sport and Entertainment Welfare, and the other welfare which promotes the quality of life. As well as the other aid, which is not include, is adequate and necessary according to the Act of the NBTC in the term of Benefit and Welfare B.E. 2550 and Vol. 2 B.E. 2551

The pension of Officer is the pension according to the regulations of the NBTC in the rule of pension payment and supporting after retire B.E. 2555. The pension always pays by the time duration of working multiply with last salary, and extra pension shall pays in amount of 20 multiplies of the last salary if get harm or sickness to the cause death from the duties. These pension will pay by the pension fund which established by the Office of the NBTC. The Source of revenue from the Initial Revenue and the Allocation of the Annual Budget that is adequate for the burden of pension to be paid at the end of the period, including the benefits of pension.

Provident Fund is the money that the Office contributed to the fund in amount of 10 percent of basic salary. According to the Regulations' Fund of the National Telecommunications Commission, under the Provident Fund of the Office of NTC, that established by the Act of the National Telecommunications Commission in the fund of the National Telecommunications Commission B.E. 2549.

2.13 Supporting Revenue for the Research and Development of the Telecommunications recognized as the expense, when it approved to pay for the person who is eligible. If there is money left to pay return in this year, it will be adapted to reduce the cost of supporting. If deposited after the disbursements are recorded as the Supporting Revenue for research and development, and the left will pay return, will show as the other income which are not caused by the operation of these regulations and shall include the expense of a similar type.

2.14 Revenue Recognition

The Office of the NBTC will recognize revenue in each category as follows:

- Revenue from the remuneration for radiocommunication spectrum usage will be recognized on an accrual basis.
- Revenue from radiocommunication license fee according to the Radiocommunications Act will be recognized up on the receipt of forms and fees.
- Revenue from telecommunications business license fee will be recognized on an accrual basis.
- Revenue from numbering fee will be recognized monthly on an accrual basis.
- Revenue from spectrum license transfer fee will be recognized upon the receipt of forms and fees.
- Revenue from application fee will be recognized according to revenue category of the application upon the receipt of the application and fee.





- Revenue from contributions to the Broadcasting and Telecommunications Development Fund for Public Benefit the Fund Office will recognize on an accrual basis.
- Revenue from Por Nor I Radio Broadcasting Station will be recognized monthly on an accrual basis.
- Revenue from other fees will be recognized upon the receipt of forms and fees.
- Revenue from interests receivable will be recognized on an accrual basis.
- Other revenues will be recognized on an accrual basis

2.15 The Expenditure of the Broadcasting and Telecommunications Development Fund for Public Interest, such as the Asset for Fund Management, Human Resource Expense, Meeting Remuneration, Expense of Public Relation, Expense for arranging the Meeting, Material Cost in Fund Management, Cost in Public Utilities and etc. shall pay by the Office of the NBTC, according to the Regulation of the Fund.

3. Improving the Revenue higher than the Accumulated Expense of Retained Period.

In 2012, the Office of the NBTC has improved the accounting in the Revenue Recognition of Telecommunications Numbering Fee income that charged from TOT Public Company Limited (TOT). Since the case is still under the Administrative Court and it is uncertain to get the economically benefit in the future, so it has to improve the Revenue Recognition of Premium Numbering fee, that charged from TOT since August 2005 to August 2008 in amount of 504.20 million Baht





The Office of the National Broadcasting and Telecommunications Commission

Unit : 1,000,000 baht				
3. Cash and Cash Equivalents		2013		2012
	Office	Development Fund	Total	Total
Cash	423,820.34	0.00	423,820.34	1,383,389.65
Petty cash	337,578.00	0.00	337,578.00	123,104.31
Receivable cheques	3,874,380.00	0.00	3,874,380.00	1,046,715.00
Bank deposits				
Current account	20,132,778.29	30,000.00	20,162,778.29	14,933,542.99
Saving account	3,963,158,744.90	1,429,503,063.82	5,392,661,808.72	3,649,639,588.49
Fixed deposit account for three-month term	<u>1,248,501,075.70</u>	<u>915,000,000.00</u>	<u>2,163,501,075.70</u>	<u>2,089.44</u>
Total Cash and Cash Equivalents	<u>5,236,428,377.23</u>	<u>2,344,533,063.82</u>	<u>7,580,961,441.05</u>	<u>3,667,128,429.88</u>
Cash and Cash Equivalents included				
Cash from the revenue gained in accordance with Section 65 (1-2)			2,619,580,492.88	3,089,668,840.63
Cash and cash equivalents from the revenue gained in accordance with Section 65 (3-5)			316,731,114.15	133,084,026.48
Cash and cash equivalents of the Broadcasting and Telecommunications Development Fund for Public Benefit			2,344,533,063.82	403,960,591.86
Cash and cash equivalents from trust money, guarantee deposits, and others			<u>2,300,116,770.20</u>	<u>31,414,734.91</u>
			<u>7,580,961,441.05</u>	<u>3,667,128,429.88</u>

Cash and Cash Equivalents of the office amount 5,236.43 million Baht is including the deposits from the Development Fund's (Old) amount 2,467 million Baht to pay the obligations of the old fund.

4. Short-term Investments		2013		2012
	Office	Development Fund	Total	Total
3-12 month fixed-term account	205,320,527.73	6,500,000,000.00	6,705,320,527.73	4,496,797,118.38
	205,320,527.73	6,500,000,000.00	6,705,320,527.73	4,496,797,118.38
Short-term Investments included				
Short-term investment from the revenue gained in accordance with Section 65(1-2)			16,318.32	1,098,865,385.18
Short-term investment from the revenue gained in accordance with Section 65(3-5)			204,957,588.26	348,594,636.32
Short-term investment of the Broadcasting and Telecommunications Development Fund for Public Benefit			6,500,000,000.00	3,049,000,000.00
Short-term investment from the trust money			<u>346,621.15</u>	<u>337,096.88</u>
Total short-term investments			<u>6,705,320,527.73</u>	<u>4,496,797,118.38</u>





5. License Fees Receivable		2013		2012
	Office	Development Fund	Total	Total
Receivable from Radio	31,900,085.86	0.00	31,900,085.86	32,683,499.63
Communications equipment rental				
Receivable from remuneration	35,952.00	0.00	35,952.00	0.00
for radio spectrum usage				
Receivable from numbering fee	10,507,433.78	0.00	10,507,433.78	29,254,925.60
Receivable from internet business	0.00	0.00	0.00	1,000,443.82
license fee				
Receivable from	703,154.60	0.00	703,154.60	174,400.00
telecommunications business license fee				
Trading Receivable	29,891,134.56	0.00	29,891,134.56	30,800,634.56
Less doubtful accounts	29,891,134.56	0.00	29,891,134.56	30,800,634.56
Returned Check	535,000.00	0.00	535,000.00	535,000.00
Total of Debtor	<u>43,681,626.24</u>	<u>0.00</u>	<u>43,681,626.24</u>	<u>64,571,144.05</u>

Accounts Receivable Allowances for Doubtful Accounts during Litigation.

The Debtor of Numbering fee in amount of 10.51 million Baht, not including fees of telecommunications numbers in 4-digit number amount 540.20 million Baht (excluding VAT and penalty), that office charged to TOT Public Company Limited according to the rule of the NTC Allocation and Allow Telecommunications Numbers in Section 13 (4) and Section 16. The criteria of the NTC in Allocation of Telecommunications Numbers (Temporarily) Section 9 and Section 14 and the criteria of the NTC in Allocation of Telecommunications Numbers B.E. 2551 Section 93, as a number of the TOT Public Company Limited taken out to service for enterprises and the private sector in work prior to the criteria of the NTC. According to the criteria of the NTC for Allocation of Telecommunications Number (Temporarily) Section 14 in the meeting No. 4/2008 of the NBTC that held on January 31, 2008 and No. 8/2009 held on February 28, 2010.

However, TOT Public Company Limited has sued the Federal Administrative Court revoked the command to dial the extra fee (Black Case No. 397/2554), which was during the proceedings of the court in the present.





6. Accrued Incomes	2013			2012
	Office	Development Fund	Total	Total
Estimated accrued income from telecommunications business license fee	777,070,000.00	0.00	777,070,000.00	768,563,673.50
Estimated accrued income from Licensees' contributions to the Broadcasting and Telecommunications Development Fund for Public Benefit	0.00	2,552,000,000.00	2,552,000,000.00	2,344,561,372.35
Estimated accrued income from revenue sharing from service provision	0.00	0.00	0.00	0.00
Total Estimated Accrued Incomes	<u>777,070,000.00</u>	<u>2,552,000,000.00</u>	<u>3,329,070,000.00</u>	<u>3,113,125,045.85</u>
7. Prepaid Expenses	2013			2012
	Office	Development Fund	Total	Total
Prepaid expense on land rental	6,436,357.03	0.00	6,436,357.03	0.00
Other prepaid expenses	<u>655,427.43</u>	<u>0.00</u>	<u>655,427.43</u>	<u>2,456,067.51</u>
Total Prepaid Expenses	<u>7,091,784.46</u>	<u>0.00</u>	<u>7,091,784.46</u>	<u>2,456,067.51</u>
8. Other Current Assets	2013			2012
	Office	Development Fund	Total	Total
Suspended input tax	18,629,923.73	0.00	18,629,923.73	12,647,093.55
Advance loan	4,830,654.50	0.00	4,830,654.50	4,811,218.92
Accrued interests receivables	6,833,543.91	51,199,517.98	58,033,061.89	21,063,686.28
Advance deposit	747,000.00	0.00	747,000.00	300.00
Other current assets	<u>6,419,776.56</u>	<u>0.00</u>	<u>6,419,776.56</u>	<u>4,955,365.26</u>
Total Other Current Assets	<u>6,460,898.70</u>	<u>51,199,517.98</u>	<u>89,348,217.86</u>	<u>43,477,664.01</u>

Other current assets was revised after deducting other receivable debts with the amount of 1,312,198.82 baht.





9. Net Buildings and Durable Articles (theOffice)				Unit : 1,000,000 baht
	Balance	Business		Balance
	as of 31 Dec. 2013	Increase	Decrease	as of 31 Dec. 2014
Historical Cost				
Buildings	398,717,969.38	0.00	0.00	398,717,969.38
Temporary buildings	647,959.90	0.00	0.00	647,959.90
Ferroconcrete constructions	26,916,267.23	7,516,331.94	0.00	34,432,599.17
Constructions made of wood or other materials	0.00	120,000.00	0.00	120,000.00
Office supplies	86,759,845.74	23,425,739.102	0.00	110,185,584.84
Vehicles and transportation equipment	152,931,517.17	4,075,00.00	0.00	157,006,517.17
Electrical and radio equipment	817,990,624.30	69,046,444.59	0.00	887,037,068.89
Power generation equipment	864,000.00	0.00	0.00	864,000.00
Advertising and publicity equipment	78,968,499.20	19,082,462.53	0.00	98,050,961.73
Tools and equipment	2,845,891.63	500,600.92	0.00	3,346,492.55
Machinery	2,349,721.49	53,831.78	0.00	2,403,553.27
Computer equipment	469,459,201.58	70,917,002.59	0.00	540,376,204.17
Housekeeping items	3,358,650.01	369,340.19	0.00	3,727,990.20
Sports/physical fitness equipment	4,665,866.08	344,161.69	0.00	5,010,027.77
Constructions improvement	277,018,593.46	44,140,948.36	0.00	321,159,541.82
Constructions and durable articles under installation	24,512,693.22	263,725,693.00	120,173,976.50	168,064,404.72
Total	2,348,007,300.39	503,317,556.69	120,173,976.50	2,731,150,880.58
Less accumulative depreciation				
Buildings	305,131,642.25	18,874,950.11	0.00	324,006,592.36
Temporary buildings	647,958.90	0.00	0.00	647,958.90
Ferroconcrete constructions	16,576,668.06	1,045,842.54	0.00	17,622,510.60
Constructions made of wood or other materials	0.00	14,136.99	0.00	14,136.99
Office supplies	49,517,968.58	8,196,288.47	0.00	577,144,257.05
Vehicles and transportation	76,536,015.54	19,533,891.61	0.00	96,069,907.15
Electrical and radio equipment	548,840,260.34	87,832,106.84	0.00	636,672,367.18
Power generation equipment	850,040.44	12,005.93	0.00	862,046.37
Advertising and publicity equipment	53,323,788.32	12,895,729.98	0.00	66,219,518.30
Tools and equipment	2,311,773.60	307,770.97	0.00	2,619,544.57
Machinery	377,129,558.20	69,157,259.20	0.00	446,286,817.40
Computer equipment	377,129,558.20	69,157,259.20	0.00	446,286,817.40
Housekeeping items	2,910,454.13	452,726.26	0.00	3,363,180.39
Sports/physical fitness equipment	4,369,366.82	259,368.90	0.00	4,628,735.72
Constructions improvement	63,199,471.75	15,222,344.14	0.00	78,421,815.89
Total	1,503,596,574.21	233,840,001.54	0.00	1,737,436,575.75
Net Buildings and Durable Articles	844,410,726.18	269,477,555.15	120,173,976.50	993,714,304.83



9. Net Buildings and Durable Articles (Broadcasting and Telecom Development Fund) Unit : 1,000,000 baht				
	Balance	Business		Balance
	as of 31 Dec. 2013	Increase	Decrease	as of 31 Dec. 2014
Historical Cost				
Office supplies	901,556.01	0.00	0.00	901,556.01
Advertising and publicity equipment	221,709,709.35	0.00	0.00	221,709,709.35
Computer equipment	638,935.63	0.00	0.00	638,935.63
Housekeeping items	26,635.51	0.00	0.00	26,635.51
Construction improvement	1,021,401.80	0.00	0.00	1,021,401.80
Total	2,810,238.30	0.00	0.00	2,810,238.30
Less accumulative depreciation				
Office supplies	383,453.12	112,694.09	0.00	496,147.21
Advertising and publicity equipment	126,774.68	4,341.80	0.00	171,116.48
Computer equipment	576,102.74	62,814.89	0.00	638,917.63
Housekeeping items	26,634.51	0.00	0.00	26,634.51
Construction improvement	704,685.66	204,280.35	0.00	908,966.01
Total	1,817,650.71	424,131.13	0.00	2,241,781.84
Net Buildings and Durable Articles	992,587.59	424,131.13	0.00	568,456.46

Net Buildings and Durable Articles (The Office and Broadcasting and Telecom Development Fund) Unit : 1,000,000 baht				
	Balance	Business		Balance
	as of 31 Dec. 2013	Increase	Decrease	as of 31 Dec. 2014
Historical Cost				
Buildings	398,717,969.38	0.00	0.00	398,717,969.38
Temporary buildings	647,959.90	0.00	0.00	647,959.90
Ferroconcrete constructions	26,916,267.23	7,516,331.94	0.00	34,432,599.17
Constructions made of wood or other materials	0.00	120,000.00	0.00	120,000.00
Office supplies	87,661,401.75	23,425,739.10	0.00	111,087,140.85
Vehicles and transportation equipment	152,931,517.17	4,075,00.00	0.00	157,006,517.17
Electrical and radio equipment	817,990,624.30	69,046,444.59	0.00	887,037,068.89
Power generation equipment	864,000.00	0.00	0.00	864,000.00
Advertising and publicity equipment	79,190,208.55	19,082,462.53	0.00	98,272,671.08
Tools and equipment	2,845,891.63	500,600.92	0.00	3,346,492.55
Machinery	2,349,721.49	53,831.78	0.00	2,403,553.27
Computer equipment	470,098,137.21	70,917,002.59	0.00	541,015,139.80
Housekeeping items	3,385,285.52	369,161.69	0.00	3,754,605.71
Sports/physical fitness equipment	4,665,866.08	344,161.69	0.00	5,010,027.77
Constructions improvement	278,039,995.26	44,140,948.36	0.00	322,180,943.62
Constructions and durable articles under installation	24,512,693.22	263,725,693.00	120,173,976.50	168,064,409.74
Total	2,350,817,538.69	503,317,556.69	120,173,976.50	2,733,961,118.88





Less accumulative depreciation				
Buildings	305,131,642.25	18,874,950.11	0.00	324,006,592.36
Temporary buildings	647,958.90	0.00	0.00	647,958.90
Ferroconcrete constructions	16,576,668.06	1,045,842.54	0.00	17,622,510.60
Constructions made of wood or other materials	0.00	14,136.99	0.00	14,136.99
Office supplies	49,901,421.70	8,308,982.56	0.00	58,210,404.26
Vehicles and transportation	76,536,015.54	19,533,891.61	0.00	96,069,907.15
Electrical and radio equipment	548,840,260.34	87,832,106.84	0.00	636,672,367.18
Power generation equipment	850,040.44	12,005.93	0.00	862,046.37
Advertising and publicity equipment	53,450,563.00	12,940,071.78	0.00	66,390,634.78
Tools and equipment	2,311,773.60	307,770.97	0.00	2,619,544.57
Machinery	2,251,607.27	35,579.60	0.00	2,287,186.88
Computer equipment	37,705,660.94	69,220,074.09	0.00	446,925,735.03
House keeping items	2,937,088.64	452,726.26	0.00	3,389,814.90
Sports/physical fitness equipment	4,369,366.82	259,368.90	0.00	4,628,735.72
Constructions improvement	63,904,157.41	15,426,624.49	0.00	79,330,781.90
Total	1,505,414,224.92	234,264,132.67	0.00	1,739,678,357.59
Net Buildings and Durable Articles	845,403,313.37	269,053,424.02	120,173,976.50	994,282,761.29

The asset for managing research and development fund in Broadcasting Telecommunications for public interest amount 5,635,707.92 Baht that including to the asset purchased by the Office of the NBTC.

10. Intangible Asset (Office)				Unit : 1,000,000 baht
	Balance as of 31 Dec. 2013	Business Increase	Decrease	Balance as of 31 Dec. 2014
Software	30,908,154.96	63,829,709.81	0.00	94,737,864.77
Minus Accumulated Amortization	14,295,808.48	20,754,755.50	0.00	35,050,563.98
Total of Intangible Asset	16,612,346.48	43,074,954.31	0.00	59,687,300.79

11. Creditors and Notes Payables		2013	2012	
		Broadcasting and Telecom		
	Office	Development Fund	Total	Total
Creditors	297,684,223.25	0.00	297,684,223.25	296,817,662.78
Creditcard payables	237,501.52	0.00	237,501.52	325,511.89
Cheques not yet cashed	16,317,830.07	950,356,200.25	966,674,030.32	12,430,424.20
Total Credit or sand Notes Payable	314,239,554.84	950,356,200.25	1,264,595,755.09	309,573,598.87





12. Advance Revenues		2014 Broadcasting and Telecom		2013
	Office	Development Fund	Total	Total
Remuneration for radio communications spectrum usage	62,866,869.60	0.00	62,866,869.60	57,144,169.89
Numbering fee	288,000.00	0.00	288,000.00	209,000.00
Internet and telecommunications services licenses fee	0.00	0.00	0.00	2,883,377.20
License fee for establishing conformity assessment bodies				
for telecommunications equipment	46,886.68	0.00	46,886.68	86,882.66
Other advance revenues	4,372,064.06	0.00	4,372,064.06	5,756,007.00
Total Advance Revenues	67,573,820.34	0.00	67,573,820.34	66,079,436.75

13. Government Revenue in Transit to the Treasury (Office)				
	Remaining Balance 31 Dec. 2012	Additional Deferred Transit	Balance Handed Over	Balance 31 Dec. 2013
Radiocommunications equipment rental and violation fees	1,330,426.53	527,787.77	1,330,426.53	527,787.77
Fines	5,994,230.00	3,597,650.00	5,994,230.00	3,597,650.00
The proceeds from the auction of 2.1 GHz	800,000.00	0.00	800,000.00	0.00
IMT Spectrum waiting for deliver to the Revenue Department				
Surplus to be remitted as government revenue in the year 2012	1,420,427.04	0.00	1,420,427.04	0.00
Surplus to be remitted as government revenue in the year 2013	1,119,935,007.85	0.00	1,119,935,007.85	0.00
Surplus to be remitted as government revenue in the year 2014	0.00	603,688,319.27	0.00	603,688,319.27
Total Government Revenue in Transit to the Treasury	2,548,531,091.42	603,813,757.04	2,548,531,091.42	607,813,757.04

The proceeds from 2.1 GHz Spectrum Auction will deliver to the Revenue Department		
	2013	2012
Bring Forward	800,000.00	0.00
The proceeds from 2.1 GHz Spectrum Auction (not including VAT)	0.00	20,812,500,000.00
Add Accrued Interest Receivable	0.00	67,942,924.66
Minus The proceeds from 2.1 GHz Spectrum Auction	0.00	(36,689,961.23)
Minus Deliver to the Revenue Department	800,000.00	20,842,969,963.43
The proceeds from 2.1 GHz Spectrum Auction waiting for deliver to Revenue Department	0.00	800,000.00





13. Revenues waiting for deliver to Exchequer (Continue)

Money from the auction licenses to use the spectrum for Telecommunications Submission to revenue is to follow the NTC, in the rules and procedures for licensing spectrum to the operation of mobile telecommunication 2.1 GHz IMT in Section 8 to pay a license to use the 2.1 GHz IMT, which had the 3 companies that won the bid, including Advanced Wireless Networks Company Limited auctioned the frequency set 7-9 in amount of 14,625 million Baht, DTAC Network Company Limited auctioned the frequency set 1-3 in amount of 13,500 million Baht and Real Future company Limited auctioned the frequency set 4-6 in amount of 13,500 million Baht, totaling 41,625 million Baht. And on December 7, 2012, the Office of the NBTC has issued a license to use the spectrum to the highest bidder. The first payment on October 22, 2012 in the amount of 50 percent of the maximum bid (20,812.50 million Baht) within 90 days from the date of receipt of the notice to bidders. The accrual period two payments is 25 percent of the bid within 15 days after the period of two years from the date it was licensed and period 3 will pay 25 percent of the bid within 15 days after the period of three years from the date to get license.

The Office of the NBTC received the guarantees 10 copies from 7 banks, in amount of 22,269,375,000.00 Baht to guarantee in a kind of irrevocable and not binding. Unconditionally pay the auction of 2.1 GHz IMT spectrum within the specified time in the notification of the NBTC, about the Rules and how to use the spectrum for International Mobile Telecommunications (IMT) of 2.1 GHz by agreeing to guarantee repayment as soon as the Office of the NBTC has notified to pay the debt and will not claim any rights to argue, and do not necessarily claim to be paid first.

Unit :Million baht				
14. Other Current Liabilities	2013 Broadcasting and Telecom		2012	
	Office	Fund	Total	Total
Accrued vouchers	36,928.28	0.00	36,928.28	3,864,157.96
Other accrued expenses	42,768,813.77	0.00	42,768,813.77	54,285,194.64
Accrued contributions to the Technology Development Fund for Education			34,005,064.11	0.00
34,005,064.11	34,005,064.11			
Accrued with holding tax	5,082,137.89	0.00	5,082,137.89	4,917,732.72
Account payable-The Revenue Department	12,633,988.20	0.00	12,633,988.20	9,398,420.89
Other current liabilities	6,190,570.59	1,312,198.82	6,190,570.59	1,643,524.26
Total Other Current Liabilities	100,717,602.84	1,312,198.82	100,717,602.84	108,114,194.58

Other current assets updated transactions with current liabilities amount 1,312,198.82 Baht. The obligations of the fund's development will be costs by the obligations of the original fund.



15. Deferred Income		Balance	Business Transaction		Balance
		31 Dec. 2012	Increase	Decrease	31 Dec. 2013
Deferred Income		<u>56,994,162.34</u>	<u>0.00</u>	<u>11,577,810.58</u>	<u>45,416,351.76</u>
16. Other Non-Current		2013			2012
		Broadcasting and Telecom			
	Office	Development Fund	Total		Total
Contract guarantee deposits	26,489,283.70	0.00	26,489,283.70	27,471,512.30	
Performance guarantee deposits	13,628,951.79	0.00	13,628,951.79	8,441,766.55	
Security deposits	2,626,904.00	0.00	2,626,904.00	84,400.00	
Trust money	346,621.15	0.00	346,621.15	337,096.88	
(to be used for monument construction)					
Trust money	<u>427,691.12</u>	<u>0.00</u>	<u>427,691.12</u>	<u>246,130.35</u>	
Total Other Non-Current Liabilities	<u>43,519,451.76</u>	<u>0.00</u>	<u>43,519,451.76</u>	<u>36,580,906.08</u>	
17. Equity and changes in equity		2013			2012
		Broadcasting and Telecom			
Equity and changes in equity	Office	Development Fund	Total		Total
Capital	<u>198,325,867.44</u>	<u>0.00</u>	<u>198,325,867.44</u>	<u>198,325,867.44</u>	
Excess of revenues over accumulated expenses					
Excess of revenues over accumulated expenses at the beginning of the accounting period	3,077,835,689.43	6,014,852,683.39	9,092,688,372.82	6,127,268,901.43	
Adjustment of the					
Excess of revenues over accumulated expenses at the beginning of the accounting period	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>(540,200,000.00)</u>	
Adjusted excess of revenues over accumulated expenses at the beginning of the accounting period					
Accumulated expenses at the beginning of The accounting period	3,077,835,689.43	6,104,852,683.39	9,092,688,372.82	5,587,068,901.43	
Plus Net excess of revenues					
over expenses for the accounting period	1,205,800,957.94	4,481,779,955.80	5,687,580,913.74	4,625,554,479.24	
Less Surplus to be remitted as					
Government revenue (Seenote No.2.9)	<u>(603,688,319.27)</u>	<u>0.00</u>	<u>(603,688,319.27)</u>	<u>(1,119,935,007.85)</u>	
Excess of revenues over accumulated expenses					
At the end of the accounting period	<u>3,679,948,328.10</u>	<u>10,496,632,639.19</u>	<u>14,176,580,967.29</u>	<u>9,092,688,372.82</u>	
Total Equity and Changes in Equity	<u>3,878,274,195.54</u>	<u>10,496,632,639.19</u>	<u>14,374,906,834.73</u>	<u>9,291,014,240.26</u>	





18. Human Resources Expenses		2013 Broadcasting and Telecom		2012
	Office Section 65 (1-2)	Development Fund Section 65 (3-5) and Others	Total	Total
Employees' salaries	634,976,778.95	0.00	0.00	634,976,778.95
Extraremuneration for the employees	10,946,950.00	0.00	0.00	10,946,950.00
Remuneration for the NTC	36,310,200.00	0.00	0.00	36,310,200.00
Monthly remuneration	21,179,318.32	0.00	0.00	21,179,318.32
Fringe benefits	52,409,849.28	0.00	0.00	52,409,849.28
Provident fund	44,446,722.87	0.00	0.00	44,446,722.87
Retirement pensions	85,568,123.68	0.00	0.00	85,568,123.68
Other expenses	39,175,288.37	0.00	0.00	39,175,288.37
Total Human Resources Expenses	<u>925,013,231.47</u>	<u>0.00</u>	<u>0.00</u>	<u>925,013,231.47</u>
				<u>589,358,891.00</u>
				<u>64,589,776.75</u>
				<u>14,087,880.00</u>
				<u>7,628,870.94</u>
				<u>66,783,132.56</u>
				<u>37,795,613.57</u>
				<u>16,756,428.89</u>
				<u>0.00</u>
				<u>796,998,593.71</u>

Costs in administering the broadcasting development fund of the Broadcasting and Telecommunications in the public interest that is charged on Human Resources amount 1,758,517.00 Baht, included expense from the Office of the NBTC.

19. Operating Expenses		2013 Broadcasting and Telecom		2012
	Office Section 65 (1-2)	Development Fund Section 65 (3-5) and Others	Total	Total
Overtime expenses	4,679,250.00	0.00	0.00	4,679,250.00
Meeting compensation to the Committees	50,790,751.00	0.00	0.00	50,790,751.00
Other remuneration	1,208,026.00	0.00	0.00	1,208,026.00
Expenses for the travellingdomestic	32,450,006.23	0.00	0.00	32,450,006.23
Repairs cost	6,488,176.27	371,500.00	0.00	6,859,676.27
Rentals cost	138,096,516.52	0.00	0.00	138,096,516.52
Maintenance cost	69,251,619.09	5,800.00	0.00	69,257,419.09
Payment for contracted services	274,468,974.88	814,500.00	0.00	275,283,474.88
Expenses paid for entertaining guests and organizing ceremonious events"	16,606,250.35	0.00	0.00	16,606,250.35
Taxes and fees	2,561,807.18	0.00	0.00	2,561,807.18
Expenses paid for attending trainings and seminars	92,141,781.78	0.00	0.00	92,141,781.78
				<u>4,375,520.00</u>
				<u>52,845,075.00</u>
				<u>2,764,610.07</u>
				<u>24,534,592.89</u>
				<u>11,129,023.39</u>
				<u>107,542,480.25</u>
				<u>44,875,211.25</u>
				<u>161,711,142.98</u>
				<u>19,269,337.49</u>
				<u>7,945,765.34</u>
				<u>72,457,672.45</u>





	2013 Broadcasting and Telecom			2012	
	Office Section 65 (1-2)	Section 65 (3-5) and Others	Development Fund	Total	Total
Expenses for trainings registration	41,706,762.63	0.00	0.00	41,706,762.63	30,961,476.79
Public relations expenses	184,587,649.06	0.00	0.00	184,587,649.06	113,669,692.47
Expenses for hosting meetings	130,084,808.78	0.00	0.00	130,084,808.78	112,842,272.19
Expenses for radiocommunication equipment calibration"	1,184,090.00	0.00	0.00	1,184,090.00	1,181,170.00
Expenses for consultants	329,537,631.40	19,500,000.00	0.00	349,037,631.40	106,840,275.79
Monetary donations	99,876,851.50	3,944,000.00	0.00	103,820,851.50	245,393,599.32
Expenses for arranging internal meetings	5,667,903.50	0.00	0.00	5,667,903.50	5,364,949.89
Other expenses	18,397,939.36	0.00	0.00	18,397,939.36	7,366,903.16
Office supplies	82,167,932.73	400.00	0.00	82,168,332.73	87,178,858.37
Expenses for the travelling abroad	250,256,814.51	0.00	0.00	250,256,814.51	206,572,073.54
Petty expenses	105,116.98	0.00	0.00	105,116.98	3,930,355.85
Total Operating Expenses	<u>1,832,316,659.75</u>	<u>24,636,200.00</u>	<u>0.00</u>	<u>1,856,952,859.75</u>	<u>1,430,772,058.91</u>

Costs in administering the broadcasting development fund of the Broadcasting and Telecommunications in the public interest that is charged on operation amount 11,790,451.99 Baht, included expense from the Office of the NBTC

20. Public Utilities Expenses			2013 Broadcasting and Telecom		2012
	Office Section 65 (1-2)	Section 65 (3-5) and Others	Development Fund	Total	Total
Electricity	23,289,804.59	780,659.18	0.00	24,070,499.77	22,444,585.03
Water	1,242,220.06	0.00	0.00	1,242,220.06	677,231.12
Office telephone service	2,852,002.65	1,316.70	0.00	2,853,339.35	2,234,807.94
Mobilephone service	5,222,900.04	0.00	0.00	5,222,900.04	3,110,982.45
DSTV service	307,180.91	0.00	0.00	307,180.91	310,832.42
Internet service	14,416,073.17	0.00	0.00	14,416,073.17	15,289,138.88
Postal services	1,862,894.89	0.00	0.00	1,862,894.89	3,259,325.29
Total Public Utilities Expenses	<u>49,193,132.31</u>	<u>781,975.88</u>	<u>0.00</u>	<u>49,975,108.19</u>	<u>47,326,903.13</u>

Costs in administering the broadcasting development fund of the Broadcasting and Telecommunications in the public interest that is charged on public utilities amount 10,637.00 Baht, included expense from the Office of the NBTC.





21. Depreciation and Amortization			2013		2012
	Office Section 65 (1-2)	Development Section 65 (3-5) and Others	Broadcasting and Telecom Fund	Total	Total
Depreciation-Buildings	18,874,950.11	0.00	0.00	18,874,950.00	18,958,256.74
Depreciation-Ferro concrete constructions	1,045,842.54	0.00	0.00	1,045,842.54	1,291,981.21
Depreciation-Office supplies	8,193,832.64	3,455.93	112,694.09	8,309,982.66	6,962,805.24
Depreciation-Vehicles and transportation	18,958,892.61	0.00	0.00	18,958,892.61	18,643,826.53
Depreciation-Electrical and radio equipment	87,832,106.84	0.00	0.00	87,832,106.84	62,427,168.31
Depreciation- Powergeneration equipment	12,005.93	0.00	0.00	12,005.93	53,668.62
Depreciation-Advertising and publicity equipment	12,830,730.98	0.00	44,341.80	12,875,072.78	11,062,704.33
Depreciation-Tools and equipment	304,558.90	0.00	0.00	304,558.90	230,062.72
Depreciation-Machinery	35,579.60	0.00	0.00	35,579.60	17,999.93
Depreciation-Computer equipment	69,157,259.20	0.00	62,814.89	69,220,074.09	71,139,135.22
Depreciation-Housekeeping items	517,725.26	0.00	0.00	517,725.26	489,957.23
Depreciation-Sports/ physical fitness equipment	259,368.90	0.00	0.00	259,368.90	43,147.82
Depreciation-Construction improvement	15,222,344.14	0.00	204,280.35	15,426,624.49	15,020,968.01
Total Depreciation	233,259,334.64	3,455.93	424,131.13	233,686,921.70	206,341,681.91
Amortization – computer program	20,754,755.50	0.00	0.00	20,754,755.50	9,174,340.48
Total of Amortization	20,754,755.50	0.00	0.00	20,754,755.50	9,174,340.48
Total of Depreciation and Amortization	254,014,090.14	3,455.93	424,131.13	254,441,677.20	215,516,022.39





22. Contributions to Funds for education, research and Telecommunications Development			2013 Broadcasting and Telecom Development Fund	Total	2012 Total
	Office Section 65 (1-2)	Section 65 (3-5) and Others			
Contributions to Funds for education, research and Telecommunications Development	90,400,975.00	0.00	0.00	90,400,975.00	39,925.35
Contribution to Funds for strengthening consumer protection organization network	0.00	0.00	0.00	0.00	0.00
Expenses for the basic telecommunications universal services provision	2,000,000.00	0.00	0.00	2,000,000.00	56,902,000.00
Expenses in supporting the education funds Service provision	<u>13,708,697.29</u>	<u>0.00</u>	<u>0.00</u>	<u>13,708,697.29</u>	<u>24,931,288.55</u>
Total Contribution to Fund for education, research and telecommunications Development	<u>106,109,672.29</u>	<u>0.00</u>	<u>0.00</u>	<u>106,109,672.29</u>	<u>81,873,213.90</u>
23. Other Appropriate Obligations Expenses			2013 Office Section 65 (1-2)	2012 Section 65 (1-2)	
Reserved fund for overlapped disbursement in 2012 and 2011 (duration extension)			379,376,603.45	120,185,185.64	
Reserved fund for overlapped disbursement in 2013 and 2002			1,201,059,591.58	1,256,538,617.04	
Creditors and notes payables (exclude from reserve fund of 2013 and 2012)			314,239,554.84	193,488,178.34	
Other current liabilities (exclude from reserve fund of 2013 and 2012)			2,368,688,680.76	69,575,765.96	
Trust money, contract guarantee deposits, security deposits in surplus of trusted money payables			<u>(2,256,943,939.59)</u>	<u>4,652,824.29</u>	
Total Other Appropriate Obligations Expenses			<u>2,006,420,491.04</u>	<u>1,644,440,571.27</u>	





24. Disputes

1. The NBTC Office was the plaintiff with Sujira Enterprise as the first defendant and Mr. Saran Chaipranee as the second defendant for the offence of breach of contract for the rental of 98.5 MHz frequency radio station, and demanded a payment for damages for THB18,118,000 according to case No. (Black) 4800/2553 and No. (Red) 4067/2554, which were in the process of final appeal by the defendants. However, the Office believed that the Supreme Court would amend higher the damages to be awarded to the NBTC Office.

2. The NBTC Office was the plaintiff with Gold Mix Co., Ltd. as the defendant for the offence of breach of contract for the rental of 1 Por. Nor. radio station, and demanded a payment for damages for THB11,773,134.56 according to case No. (Black) 6024/2552 and No. (Red) 1975/2554 which were in the process of final appeal. However, the Office believed that the Supreme Court would amend higher the damages to be awarded to the NBTC Office.

3. The NBTC Office was the defendant in the tort claim case worth THB 5,000,000 according to case No. (Black) 3301/2556 which was in the process of calling the witnesses and the defendant on January 21-23, 2014. However, the Office believed that the Civil Court would rule in the NBTC Office's favor.

4. The NBTC Office was the defendant in the offence in relations to unlawful conduct by a state agency or state officials (in the case of stipulating the compensation for the use of radio frequency and the compensation for the use of additional radio frequency) worth THB 71,892,000 according to case No. (Red) Or.138/2555 which the Supreme Administrative Court has ruled that the Company had the duty to pay the compensation for the use of radio frequency and the compensation for the use of additional radio frequency to the NBTC Office, and the Central Bankruptcy Court has ordered that it be put in absolute receivership on December 13, 2012 as announced in the Royal Gazette on March 26, 2012, and was in the process of applying for loan loss to the Legal Execution Department. The probability of the case was that the Company would not be able to pay the compensation for the use of radio frequency and the compensation for the use of additional radio frequency, as the Company did not have the financial capability to repay debts and did not own enough assets to be repossessed or sold off.

5. The NBTC Office was the defendant in the offence in relations to unlawful conduct by a state agency or state officials (in the case of waiver of No. 11, NTC Notification on the contract standard for telecommunication services of 2006, and the NTC resolution taking on the duty of NBTC as in No. 11 of the announcement) worth THB59,460,000 according to case No. 1226/2554 and case No. 706/2555, which were still under the court's deliberation. However, it was probable that the NBTC Office would win the case.

6. The NBTC Office was the defendant in the offence in relations to unlawful conduct by a state agency or state officials (in the case of setting the compensation rate for the network connection between TOT and DTAC) worth THB 21,780,000 according to case No. 1033/2553, which was still under the court's deliberation. However, it was probable that the NBTC Office would win the case.





7. The NBTC Office was the defendant in the offence in relations to unlawful conduct by a state agency or state officials (in the case of setting the daily fine for administration at THB80,000 due to the inability to collect the data and details of the pre-paid mobile phone subscribers thoroughly according to Nos. 38 and 96 of the NTC Notification on the criteria for the allocation and management of numbers) worth THB130,260,000 according to cases No. 1033/2553, No. 3117/2555, No. 252/2556, and No. 818/2556, which were still under the court's deliberation. However, it was probable that the NBTC Office would win the cases.

8. The NBTC Office was the defendant in the offence in relations to unlawful conduct by a state agency or state officials (in the case of the issuance of order to collect the data and details of the subscribers according to the NTC Notification on the criteria for the allocation and management of telecommunication numbers of 2008) worth THB108,480,000 according to cases No. 1858, No. 1859, and No. 1867/2011, which were still under the court's deliberation. However, it was probable that the NBTC Office would win the cases.

9. The NBTC Office was the defendant in the offence in relations to unlawful conduct by a state agency or state officials (in the case of setting the daily fine for administration at THB100,000 according to the setting of conditions for the pre-paid mobile phone service that seemed to be a coercion on the subscribers to use the services within a set timeframe, which should be against No. 11 of the ONTC announcement on the standard of contracts) worth THB71,700,000 according to case No. 56/2013, No. 75/2013, and No. 55/2013, which were still under the deliberation of the court. However, it was probable that the NBTC Office would win the cases.

25. Situations after the reporting timeframe

On December 26-27, 2013, the NBTC Office organized the auction to use spectrum for the national digital television service as in the NBTC Notification on date, time, venue and program for the auction to use spectrum for national digital television service dated December 18, 2013. Altogether 41 entities participated in the auction, including nine in high definition, general variety category, 16 in standard definition, general variety category, 10 in news and documentary category, and six in the children, youth and family category. Later on January 6, 2013, NBTC Office announced the results of the auction officially as required by the NBTC Notification on the results of spectrum auction for national digital television service. In the results, the high definition general variety category saw seven channels with bids totaling THB23,700 million. The standard definition general variety category saw seven bids for a total of THB15,950 million. The seven channels for news and documentary category saw a total of THB9,238 million. Lastly, the three channels for the children, youth and family category bids totaling THB1,974 million. The winning bidders in each category would have to pay the fee for the license for use of spectrum in an amount equivalent to each of their winning bids as stipulated in the NBTC Notification on the criteria, method and conditions of spectrum auction for the national digital television services, with the following details on the payment of fees:





1. License fee to use of spectrum on the part of the minimum payment is divided into four installments:

1st installment: To pay 50 percent of the minimum (THB7,595,000,000) together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the minimum payment within 30 days as from the receipt of the letter of confirmation of the winning bids, which the NBTC Office (Research and Development Fund for Radio, Television and Telecommunication Services for the Benefit of the People) has received some partial payment to the amount of THB3,567,200,000 on January 20, 2014, from the guarantees of the winning bidders in accordance with the NBTC Notification on the criteria, method and conditions of spectrum auction for the national digital television services of 2013.

2nd installment: To pay 30 percent of the minimum payment together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the minimum payment within 30 days as of one year after the receipt of the letter of confirmation of the winning bids.

3rd installment: To pay 10 percent of the minimum payment together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the minimum payment within 30 days as of two years after the receipt of the letter of confirmation of the winning bids.

4th installment: To pay 10 percent of the minimum payment within 30 days as of three years after the receipt of the permit, while the proceeds realized from the fee payment as part of the minimum payment for the use of spectrum will be used to promote the opportunity for the people to widely access the digital television services.

2. The fee for the permit for use of frequency on the part over and above the minimum payment is divided into six installments:

1st installment: To pay 10 percent of the sum over and above the minimum payment together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the remainders of the minimum payment within 30 days as from the day of the receipt of the letter of confirmation of the winning bids.

2nd installment: To pay 10 percent of the sum over and above the minimum payment together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the remainders of the minimum payment within 30 days as of one year after the receipt of the letter of confirmation of the winning bids.





3rd installment: To pay 20 percent of the sum over and above the minimum payment together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the remainders of the minimum payment within 30 days as of two years after the receipt of the letter of confirmation of the winning bids.

4th installment: To pay 20 percent of the sum over and above the minimum payment together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the remainders of the minimum payment within 30 days as of three years after the receipt of the letter of confirmation of the winning bids.

5th installment: To pay 20 percent of the sum over and above the minimum payment together with the submission of the letter of guarantee from a financial institution recognized as thus in the Financial Institution Act of 2008 to guarantee the fee payment for the use of spectrum on the part of the remainders of the minimum payment within 30 days as of four years after the receipt of the letter of confirmation of the winning bids.

6th installment: To pay 20 percent of the sum over and above the minimum payment within 30 days as of five years after the receipt of the letter of confirmation of the winning bids.





The Office of the National Broadcasting and Telecommunications Commission

Financial Statements

as of 31 December 2013

Unit: Baht				
Assets	Note	Office	Broadcasting and Telecom Development Fund	Total
Current Assets				
Cash and cash equivalents	3	5,236,428,377.23	2,344,533,063.82	7,580,961,441.05
Short-term investments	4	205,320,527.73	6,500,000,000.00	6,705,320,527.73
Receivable from license fee	5	43,681,626.24	0.00	43,681,626.24
Accrued income	6	777,070,000.00	2,552,000,000.00	3,329,070,000.00
Prepaid expenses	7	7,091,784.46	0.00	7,091,784.46
Other current assets	8	<u>37,460,898.70</u>	<u>51,199,517.98</u>	<u>87,348,217.86</u>
Total current assets		<u>6,307,053,214.36</u>	<u>11,447,732,581.80</u>	<u>17,753,473,597.34</u>
Non-current Assets				
durable articles	2.6,9	993,714,304.83	568,456.46	994,282,761.29
Net intangible assets	2.7,10	<u>59,689,300.79</u>	<u>0.00</u>	<u>59,689,300.79</u>
Total non-current assets		<u>1,053,401,605.62</u>	<u>8,456.46</u>	<u>1,053,970,062.08</u>
Total Assets		<u>7,360,454,819.98</u>	<u>11,448,301,038.26</u>	<u>18,807,443,659.42</u>

(Statement of financial position as above, excluded the other current assets and the other current liabilities among themselves amount 1,312,198.82 Baht)

Notes to financial statements are an integral part of these financial statements.

The above financial statement is to be certified by the Office of the Auditor General of Thailand





**The Office of the National Broadcasting and Telecommunications
Commission Financial Statements
as of 31 December 2013 and 2012**

				Unit: Baht
Liabilities and Equity	Note	Office	Broadcasting and Telecom Development Fund	Total
Current Liabilities				
Creditors and notes payable	11	314,239,554.84	950,356,200.25	1,264,595,755.09
Advance revenue	12	67,573,820.34	0.00	67,573,820.34
Government revenue in transit to the Treasury	13	607,813,757.04	0.00	607,813,757.04
Guarantee of TV Digital's auction		2,271,000,000.00	0.00	2,271,000,000.00
Other current liabilities	14	<u>100,717,602.84</u>	<u>1,312,198.82</u>	<u>100,717,602.84</u>
Total current liabilities		<u>3,361,344,735.06</u>	<u>951,668,399.07</u>	<u>4,311,700,935.31</u>
Non-current Liabilities				
Deferred revenue-monetary	2.8,15	45,416,351.76	0.00	45,416,351.76
Radio communication equipment rental and spectrum fee held in trust	2.5	31,900,085.86	0.00	31,900,085.86
Other non-current liabilities	16	<u>43,519,451.76</u>	<u>0.00</u>	<u>43,519,451.76</u>
Total non-current liabilities		<u>3,482,180,624.44</u>	<u>0.00</u>	<u>120,835,889.38</u>
Total Liabilities		<u>3,482,180,624.44</u>	<u>951,668,399.07</u>	<u>4,432,536,824.69</u>
Equity				
Capital	17	198,325,867.44	0.00	198,325,867.44
Excess of revenues over accumulated expenses	17	<u>3,679,948,328.10</u>	<u>10,496,632,639.19</u>	<u>14,176,580,967.29</u>
Total equity		<u>3,878,274,195.54</u>	<u>10,496,632,639.19</u>	<u>14,374,906,834.73</u>
Total Liabilities and Equity		<u>7,360,454,819.98</u>	<u>11,448,301,038.26</u>	<u>18,807,443,659.42</u>

(Statement of financial position as above, excluded the other current assets and the other current liabilities among themselves amount 1,312,198.82 Baht)

Notes to financial statements are an integral part of these financial statements.

The above financial statement is to be certified by the Office of the Auditor General of Thailand





The Office of the National Broadcasting and Telecommunications Commission

Financial Statements

as of 31 December 2013

Note	Office Section 65 (1-2)	Section 65 (3-5) and Others	Research and Development Fund	Unit : Baht Total
Telecommunication Operating Revenue				
Remuneration for	122,297,503.61		0.00	122,297,503.61
Telecommunication Spectrum				
Radiocommunications Services	135,834,825.00		0.00	135,834,825.00
License Fee				
Telecommunication Services	783,801,590.86		0.00	783,801,590.86
Numbering Fee	3,096,088,777.69		0.00	3,096,088,777.98
Other fee - Telecommunications	11,828,268.98		0.00	11,828,263.8\98
Total of Telecommunication	<u>4,149,850,961.515</u>		<u>0.00</u>	<u>4,149,850,961.515</u>
Operating Revenue				
Broadcasting and Television				
Broadcasting License Fee	13,573,341.68		0.00	13,576,341.68
Trial Broadcasting Operating Fee	30,026,000000		0.00	30,026,000000
License Fee by the Law Section	41,416,990.00		0.00	41,416,990.00
Other Fee-Broadcasting and	<u>52,164,885.00</u>		<u>0.00</u>	<u>52,164,885.00</u>
Television				
Total of Broadcasting and	<u>137,181,216.68</u>		<u>0.00</u>	<u>137,181,216.68</u>
Television Revenue				
Research and Development fund , other revenue				
Contribute to Development Fund Liceness				
(contribute of USO Project)	0.00	0.00	5,125,588,442.93	5,125,588,442.93
Contribution to Telecommunication	0.00	0.00	40,000,000.00	0.00
Develepment Fund				
Revenue from 1 Radio Station	0.00	44,779,439.30	0.00	44,779,439.30
Interest Received	90,938,330.15	12,019,602.40	217,724,366.44	320,700,298.99
Other Revenue	<u>1,493,998.03</u>	<u>11,605,828.01</u>	<u>50,973,277.56</u>	<u>64,077,103.60</u>
Total R&D Fund and Other Revenue	<u>92,432,328.18</u>	<u>68,404,869.71</u>	<u>5,434,304,086.93</u>	<u>5,555,141,284.82</u>
Total	<u>4,379,464,506.00</u>	<u>68,404,869.71</u>	<u>5,434,304,086.93</u>	<u>9,842,173,462.64</u>





Note		Office Section 65 (1-2)	Section 65 (3-5) and Others	Research and Development Fund	Unit : Baht Total
Operating Expense					
Human Resource Expenses	18	925,013,231.47		0.00	925,013,231.47
Operating Expenses	19	1,832,316,659.75		24,636,200.00	1,856,952,859.75
Public Utility Expenses	20	49,193,132.31		781,972.88	49,975,108.19
Depreciation	21	254,014,090.14		3,455.93	254,441,677.20
Contribution to Education,	22	106,109,672.29		0.00	106,109,672.29
Research & Development					
Fund Objection Promotion and			0.00	0.00	952,100,000.00
Supporting Expenses					
Contribution Telecommunication		40,000,000.00		0.00	0.00
Development Fund					
Contribution to Technology		10,000,000.00		0.00	10,000,000.00
Development Fund for Education					
Total Expense		<u>3,216,646,785.96</u>		<u>25,421,631.81</u>	<u>4,154,592,548.90</u>
Net Expenses of Revenues		<u>1,162,817,720.04</u>		<u>42,983,277.30</u>	<u>5,689,580,903.75</u>
Over Expenses					

(The above Statement of Operating Performance already excised the Revenue and Expense of Telecommunication Development Fund in amount of 40,000,000.00 Baht)

Notes to financial statements are an integral part of these financial statements.

The above financial statement is to be certified by the Office of the Auditor General of Thailand





Internal Audit Report of the Office of the National Broadcasting and Telecommunications Commission in the Year 2013

According to the Office of the NBTC has the Command of the National Broadcasting and Telecommunications Commission Vol. 49/2012, date 2 May 2012 in the Establishment of the Internal Audit Committee for 5 persons and the Command of the National Broadcasting and Telecommunications Commission Vol. 69.4/2013 in the Establishment of the Internal Audit Committee (Extra) for 5 persons, as below.

(1) General Kamol	Saenissara	Chairman
(2) Mr. Wallop	Nitatkanchananon	Committee
(3) Mr. Somyos	Sriwanich	Committee
(4) Mr. Atthawut	Vikitsreth	Committee
(5) Mrs. Leena	Sricharoen	Committee

Internal Audit Committees is operating by the authority, duty and responsibility in Section 3 of the Act of the National Broadcasting and Telecommunications Commission in the Internal Auditing of the Year 2011. There has independent in operating by the authority without intervened from the Office of the NBTC and other departments.

The operation according to the Authority, Duty and Responsibility of the Internal Audit Committees of the Year 2013, as above. The Internal Audit Committees has held the meeting 14 times and invited the administrative section, related section, and auditor to attend these meeting as appropriate. The operation can be summarized as follows:

1. To estimate the adequacy and efficiency of the Internal Control System in the Office of the NBTC, and to estimate the efficiency and effectiveness in the operation of each section in the Office of the NBTC, together with the suggestion to improve the risk management and continuously regulate.

2. To collate the operating system in varies to be in the act of the NBTC. To set standard of the operation that can be lead to the target, objective and according with the policy of the NBTC.

3. To collate the accuracy and trustworthy of the Financial Statement of the Office of the NBTC by collating the accounting record and financial statement, as well as, to consult in the operation of accounting, finance and procurement with the officer of the Office of the Auditor General of Thailand (Auditor) and involved officer.

4. To collate and estimate the summary of operation of accounting, finance and procurement of the Office of the NBTC, including the suggestion to improving and solving the defect, and developing to more efficiency.





5. To analyze and estimate the efficiency, frugality and value in using the resource by collating the operation and evaluation of expense in projects of the Office of NBTC.

Internal Audit Committee provides their comment that the operation of the Office of the NBTC in the year 2013 has a good regulation, transparency, risk management and adequate for Internal control. There has not the defect or something wrong, which is the essence. Moreover, the process in accounting record is operating on the accounting standard that qualified, accuracy, trustworthy including to adequate for showing of financial statement.

The operation of Internal Audit Committee has the duty to regulate, suggest and advice to administrative section and operation section straightforward. There prepare the Auditor's report and the suggestion present to the NBTC every 180 days, for the purpose of the Office of the NBTC take the action to improve and follow up the improvement according the suggestion for more effective operation.

Gen.

(Kamol Saenissara)

Chairman of Internal Audit Committee



Section 7

NBTC Office Work Plan,
Project and Budget Plan in 2014



NBTC Office Work Plan, Projects and Budget Plan in 2014

Following the Notification of three Master Plans which are Spectrum Management for B.E. 2555 (2013), Broadcasting and Television Business Master Plan No. 1 for B.E. 2555 (2012) -2559 (2016), Telecommunications Master Plan No. 1 for B.E. 2555 (2012) – 2559 (2016), there has been successful operation in regulating services in broadcasting, television, and telecommunications including the provincial integrated area operation whereas 15 projects and other 64 commitment project with allocated budget were conducted.

In the year B.E. 2557 (2014) NBTC office has been approved by the NBTC commissioners to operate under the fiscal year budget which consists of staff and office management costs, equipment and material costs, land and building cost, and others. There have been 134 major projects to regulate broadcasting, television, and telecommunications services in accordance with the three Master Plan strategies. Objectively, the projects are for most benefit to public and categorized as follows:

1. Projects on activities in broadcasting and television following the Master Plan strategies where 16 projects were committed with allocated budget and 38 new projects as shown in Table 99.

**Table 99 : Number of Projects Following Master Plan Strategies in Broadcasting
and Television Business**

Strategy of Broadcasting and Television Business Master Plan			No. of Project
1.	Commitment Projects with Allocated Budget		5
	1.	Consultant Project for Making Radio Frequency Plan and Technical Standardization for Broadcasting Service	
	2.	Project on Reviewing and Updating Information Database for Radio Broadcasting and Television Phase 3	
	3	Project on Establishment of Laboratory for Equipment Testing According to Radio Telecommunication Equipment Act B.E. 2498 (1955)	
	4.	Project on Measurement of Terrestrial Television Signal in Digital System	
	5.	Project on Testing Experiment of Radio Broadcasting Transmission Signal in Digital System	





Strategy of Broadcasting and Television Services Master Plan			No. of Project
	New Projects		2
	1.	Training Program to Understand Granted Non-Frequency Broadcasting and Television Business Owners	
	2.	Second Training Program on Law Enforcement Network in Broadcasting and Television Service	
2.	Regulation of Broadcasting and Television Service		
	Commitment Projects with Allocated Budget		3
	1.	Project on Management System Development on Fees and Service Rate	
	2.	Project on Human Development to Enter AEC on Broadcasting and Television Services	
	3.	Consulting Project on Data Collection Study of Audience Measurement for Usage of Broadcasting and Television Services	
	New Projects		10
	1.	Consulting Project on Thai Social and Economic Impact of Broadcasting and Television Services Study	
	2.	Study Project on Information Media in Counterterrorism	
	3.	Project on Common Regulation and Transparency of Information Media in regard to ASEAN Region	
	4.	Project on Promotion of Understanding and Knowledge Enhancement about Laws and Regulations of Broadcasting and Television Business for Business Owners, Governmental Units, and People	
	5.	Training Workshop Project on Promotion of Understanding and Knowledge Enhancement about Radio Frequency Interference Problems in Aeronautical Radio Operation	
	6.	Training Seminar Program on Duty Performance on License Issuance	
	7.	Public Relations Communication Project on Annual Licensing Fee, Fee Reduction, and Service Fee Regulation in Broadcasting and Television Services	
	8.	Consulting Project for Support on Review of Annual Fee Licensing in Broadcasting and Television Services	





Strategy of Broadcasting and Television Services Master Plan			No. of Project
	9.	Project on Production of Practice Manuals of Competition Regulation Guideline in Broadcasting and Television Services	
	10.	Study Project on Promotion of Moral and Ethical Behavior and Regulation of New Media in Multi Technological Environment	
3.	Consumer Protection in Broadcasting and Television Business Services		
	Commitment Projects in Continuation		2
	1.	Project on Users Ability Development and Enhancement in Perception of Media Deception	
	2.	Project on Media Consumer Protection in Illegal Food, Medicines, and Health Products	
	New Projects		3
	1.	Project on Development of Mechanisms for Media Consumers for Understanding and Perception of Radio-Television Media Deception	
	2.	Consulting Project on Study of Situation in Legal Complaints due to Media Consumers Being Taken Illegal Advantage in Broadcasting and Television Services	
	3.	Project on Media Consumer Network Construction in Broadcasting and Television Services	
4.	Rights and Liberty in Freedom of Communication		
	Commitment Projects with Allocated Budget		3
	1.	Project on Promotion of Standardization Development of Broadcasting Telecommunication and Television Services	
	2.	Study Project on Data Collection of Media Consumers in Targeted Area in Broadcasting and Television on the Second Phase	
	3.	Research Study Project on Effectiveness and Efficiency Assessment of Broadcasting and Television Services Performance	
	New Projects		7
	1.	Consulting Project for Research Study on Enhancement of Media Communication of Cultures in Three Provinces on the Southern Border of Thailand	
	2.	Study Project on Data Collection of Media Consumers in Targeted Area in Broadcasting and Television in the Third Phase	
	3.	Project on Promotion of Local Media Program Production in the First Phase of Broadcasting and Television Services	





Strategy of Broadcasting and Television Services Master Plan			No. of Project
	4.	Pilot Project on Consumers Opportunity Broadening for Accessing Media Information in Broadcasting and Television Services	
	5.	Project on Promotion of Rights and Liberty of Mass Media Persons in Broadcasting and Television Services in B. E. 2557 (2014)	
	6.	Project on Promotion of Morality and Ethics of Mass Media Persons in B.E. 2557 (2014)	
	7.	Project on Promotion of Media Information Access of Disabled by Broadcasting and Television Business Owners	
5.	Quality Development of Business Performance		
	Commitment Project with Allocated Budget		1
	1.	Project on Ability and Skill Development of Announcers in Broadcasting and Television Services	
	New Projects		12
	1.	Project on Second Seminar of High Level Executive in Broadcasting and Television Services	
	2.	Project on Promotion of Knowledge and Understanding Enhancement for Broadcasting and Television Business Owners in Three Provinces in the Southern Border of Thailand, B.E. 2557 (2014)	
	3.	Consulting Project on Comparison Study of Regulating Broadcasting and Television Programs for Minority in South Tyrol and North Ireland	
	4.	Project on Effective Enhancement of Pluralism in Media Communication for Local Radio Stations	
	5.	Project on Media Consumers Network in Broadcasting and Television Services	
	6.	Project on Public Attitude Survey for Quality Assessment of Television Programs in Digital System	
	7.	Project on Promotion of Standardization Development in Broadcasting and Television Services, Phase 2	
	8.	Project on Field Activities and Professional Public Relations Management Training Seminar	
	9.	Research Study Project on Efficiency Assessment of Grouping Promotion of Broadcasting and Television Business Owners	





Strategy of Broadcasting and Television Services Master Plan			No. of Project
10.	Project on Ethic Enhancement and Potential Development of Radio Broadcasting and Television Business Owners		
11.	Project on “Train the Trainer” Seminar		
12.	Project on Funding Support to Excursion Trip for Distinctive Professionals in Broadcasting and Television Services		
6.	Promotion of Right and Liberty in Freedom of Communication		
	Commitment Project with Allocated Budget		
1.	Project on Signal Testing on Digital Radio-Television Transmission System		
	New Projects		3
1.	Seminar Project Promoting the Transfer Procedure of Radio and Television Signal to Digital System		
2.	Project on Human Resource – Expert Management for Making and Improving Radio Frequency Plan for Terrestrial Television Stations in Digital System		
3.	Project on Competition Situation Assessment for Promotion of Regulation of Digital Television Services		
7.	Transfer of Signal Transmission of Radio and Television Broadcasting to Digital System		
	Commitment Project with Allocated Budget		1
1.	Project on Leasing Office Building for Broadcasting and Television Services Work		
	New Project		1
1.	Project on Assessment of Operation Results Following the Master Plan and Strategies on Broadcasting and Television Services, Phase 3		



2. Projects on Telecommunication Operation following the Telecommunication Master Plan Strategies are composed of 18 committed projects with allocated budget and 37 new projects as shown in Table 100.

Table 100: Number of Projects Following Telecommunications Master Plan Strategy

Telecommunications Master Plan Strategy			No. of Project
1.	Competition Promotion and Development with Freedom and Fairness		
	New Projects		10
	1.	Project on Policy and Criteria Development for Regulation of Telecommunications Services in a New Integrating Technology Environment	
	2.	Project Study on Efficiency Indices for Telecommunications Business Owners	
	3.	Project on Construction of System for Confidential Information Database : CID for Collecting Investment Cost of Telecommunications Services	
	4.	Project on Knowledge Exchange in Regulation on Telecommunications Services Fee Rate	
	5.	Project Study on Economic Impact Assessment of Mobile Broadband Services	
	6.	Project on Cooperation with External Organization about Legal Execution and Effective Enforcement Measures by Rule or Law	
	7.	Project on Knowledge Management on Telecommunications Law	
	8.	Project on Quality Assessment System Development of Telecommunications Network	
	9.	Project on Analysis Study Report on Equipment Requirement for Regulating/Monitoring Telecommunications Services by the NBTC Office	
	10.	Project on Data Collection of 2.1 GHz Mobile Service Based Station	
2.	Licensing of Spectrum Usage and Granting Service License		
	New Projects		2
	1.	Project on Public Relations Training Seminar for Reporters in Telecommunications Auction B.E. 2557 (2014)	
	2.	Project on Training Seminar on Knowledge and Information for Preparation of Telecommunications Spectrum Bidding/Auction	





Telecommunications Master Plan Strategy			No. of Project
3.	Efficient Utilization of Telecommunications Resources		
	Commitment Projects with Allocated Budget		5
	1.	Project Development of Database System to Manage Telecommunication Registration Numbers Phase 1	
	2.	Project On Procuring Telecommunications Equipment for the NBTC Office	
	3.	Consulting Project on Studying Tendency of Using Spectrum as Medium to Transmit Electric Power	
	4.	Project on Radio Sub-network TETRA with Accessories	
	5.	Project on Efficiency Increasing of ASMS System	
	New Projects		11
	1.	Project on System Improvement for Collection of the NBTC Old Telecommunication Equipment	
	2.	Project on Regulation of Telecommunications Line and Tower B.E. 2557 (2014)	
	3.	Project on Campaign for Mobile Phone User Registration in Pre-Paid Type	
	4.	Project on Campaign for Service on No-change of Mobile Number	
	5.	Project Study on Guidelines of Regulation and Green Telecom Enforcement	
	6.	Project Study on Telecommunications Technology Application Guidelines for Cultural Promotion	
	7.	Project on Innovative Invention Competition of Radio Amateurs	
	8.	Project on Procurement of Telecommunication Equipment for NBTC Office Phase 2	
	9.	Project on Telecommunication Radio TETRA with Accessories Phase 2	
	10.	Project on Procuring Radio Frequency Measuring Instrument for Servicing Mobile Phone Phase 2	
	11.	Project on Voluntary Network Formation for Radio Amateurs	
4.	Thorough/Country-wide Basic Telecommunications Services		
	Commitment Project with Allocated Budget		3
	1.	Project on Promotion and Initiation of Demand to Use ICT according to USO	





Telecommunications Master Plan Strategy			No. of Project
	2.	Project on Creativity of Youth Generation in Having Self-Discipline to Use ICT : NET GEN 2	
	3.	Project Study on Analysis, Planning, and Procedure Revision of the Bidding Project on Thorough Service of Phone and Internet in 2 Pilot Provinces (Phitsanulok and Nong Khai)	
	New Projects		6
	1.	Project under USO Operating Plan B.E. 2557 (2014) – 2558 (2015) on Media Material Production for Expansion of Network and Telecommunications Services for Society	
	2.	Project under USO Operating Plan B.E. 2557 (2014) – 2558 (2015) on Dissemination of Expansion of Network and Telecommunication Services for Society Through Different Types of Mass Media	
	3.	Project under USO Operating Plan B.E. 2557 (2014) – 2558 (2015) on Dissemination of Expansion of Network and Telecommunications Services for Society Through Television Media	
	4.	Project on Public Relations Computer Training Seminar Targeting at 500,000 Participants under USO (Phase 1) Operating Plan	
	5.	Project on Strengthening and Establishing NBTC USONET Volunteers Network	
	6.	Project on International Cooperation in APEC on USO Operation and Management	
5.	Thorough/Country-wide Basic Telecommunications Services		
	Commitment Projects with Allocated Budget		
	1.	Project on Establishment of Laboratory for SAR Testing	
	2.	Project on Equipment Procurement of QOS Measuring Instrument and Analyzer of 3G and 4G and on Detecting and Analyzing the Efficiency of Telecommunications Network	
	3.	Project on Procuring Instrument for Radio Frequency Measurement for Mobile Phone Services	
	4.	Project on Procuring the Analysis System and Mean Result Evaluation of Mobile Phone Signal	
	5.	Project on Procuring Equipment for Quality Measurement of Wireless Internet (Wi-Fi)	





Telecommunications Master Plan Strategy			No. of Project
	6.	Project on Procuring Equipment for IP Network Service Provider Measuring and Analysis	
	7.	Project Study on Electronic and Telecommunications Waste Management	
	8.	Project Study on Impact of Signal from Mobile Phone Based Station against Health Safety	
	9.	Project on Provision of Data Collection Center for QoS for the NBTC Office	
	10.	Project on Website Development for Mobile Application	
	11.	Project on Measurement Evaluation System and Dissemination of the Network Quality Information of Mobile and Internet Services to Public	
	New Projects		7
	1.	Project Study on Telecommunication Technology for Foreign Intrusion Protection and Suggestion for Guidelines of Regulation	
	2.	Project Study on Telecommunication Technology Application to Support Crime Protection and Execution Outside and Within Thailand	
	3.	Project on Special Public Relations Program Production of the NBT on Holidays	
	4.	Project on Competition of Software Application for Community Internet Center Usage	
	5.	Project on Activities for Dissemination of Knowledge and Understanding of Roaming Services to People in the Rural Area	
	6.	Project on Continuation Study of Efficiency and Standardization of QoS in Mobile Phone Services of 3G and 4G (In-Building) in Phase 2	
	7.	Project on System Development in Measurement of Quality of Wireless Internet Network	





3. Having one project and activity related to the Spectrum Management Master Plan, it is the activity on result evaluation follow-up of Spectrum Management Master Plan.

4. Projects on supporting operating activities consist of 95 projects which are:

4.1 Regional and Integrating Activities

31 committed projects with allocated budget and 36 new projects

4.2 Organization Management Activities

1 committed project with allocated budget and 9 new projects

4.3 Strategic Activities and Organization Businesses

4 committed projects with allocated budget and 14 new projects

In B.E. 2557 (2014), the NBTC Office has been approved for the fiscal budget B.E. 2557 (2014) as shown in the following Table 101:

Table 101: Fiscal Budget of the NBTC Office, B.E. 2557 (2014)

Descriptions	Amount (Unit :THB)
Fiscal Budget for B.E. 2557 (2014)	5,457,205,600
1. Cost of the NBTC Activities and the NBTC Office	3,418,367,100
1.1 Staff	1,211,847,400
1.2 Operating and Management	1,483,649,200
1.3 Equipment, Land, and Buildings	284,354,000
1.4 Others	438,516,500
2. Cost of Other Necessary Activities	1,788,192,500
3. Budget for Evaluation Committee Activities	82,866,000
4. Cost of Funds	50,000,000
4.1 Research and Development Fund for Public Benefits in Broadcasting, Television, and Telecommunication Services	40,000,000
4.2 Technology Development Fund for National Education	10,000,000
5. Central Budget for Emergency and Others	117,780,000

Source: Group of Strategic and Budget





Performance Management of NBTC Inspector and Evaluation Commission 2014

In B.E. 2557 (2014), NBTC commissioners had approved the fiscal budget of B.E. 2557 (2014) for operation and activities of the Committee for following up and evaluation of the operating result. The operating plan/projects and the committee's budget are shown in details in Table 102:

Table 102: Budget for the Committee for Following up and Evaluation

Description	Amount (Unit: THB)
Fiscal Budget of B.E. 2557 (2014)	73,206,000
1. Operating of Following up and Evaluation Committee	48,206,000
2. Project Expenses (Investment Budget)	25,000,000

Source: Group of Strategic and Budget

In B.E. 2557 (2014), the Committee has specified the following main projects as follows:

1. Project on Following up and Operating Result Evaluation on Broadcasting Services in B.E. 2557 (2014)
2. Project on Following up and Operating Result Evaluation on Television Services in B.E. 2557 (2014)
3. Project on Following up and Operating Result Evaluation on Telecommunications Services in B.E. 2557 (2014)
4. Project on Following up and Operating Result Evaluation on Consumer Protection in B.E. 2557 (2014)
5. Project on Following up and Operating Result Evaluation on Promotion of Rights and Liberty of People in B.E. 2557 (2014)



Section 8

Obstacles, Problems and Challenges in Broadcasting, Television, and Telecommunications Services



Obstacles, Problems and Challenges in Broadcasting and Television Services

The challenges facing Broadcasting, Television, and Telecommunications Services Operation in B.E. 2557 (2014) could be categorized into 3 main parts as follows:

1. Public Relations Activities Enhancing People's Understanding and Readiness to Transfer into Digital Television Society

As a result of the National Spectrum Auction for digital television service providers on December 26-27, B.E. 2556 (2013), and after beginning of digital signal transmission, people can access and watch various TV programs without changing TV receiver, but having only the supplementary set (Set-Top-Box) to transform into digital signal or possibly replace the old TV receiver to the digital type such as DVB-T@ type. Therefore, the NBTC's challenge is to strengthen the public relations for the readiness of change to the new digital society accordingly with the digital television network expansion.

2. Coupon Activity to Promote the Access of the Set-Top-Box and Digital TV Receiver

The NBTC has planned to enable the public to transfer the terrestrial TV receiving into digital system and access the digital television service widely in the country by distributing the promotion coupons and funded national spectrum service provider for digital system in the bidding procedure. All houses are equally inclusive for distribution of the coupons. Besides this and for the matters of flexibility, people can select either procuring the digital TV receiver or the Set-Top-Box to transform digital signal to analog signal for the analog TV receiver. Therefore, the NBTC's challenge is to distribute coupons equally to cover relatively all houses.

3. Schedule Plan for Transferring of Transmitting and Receiving Signal to Digital System

Following the Master Plan of Broadcasting and Television Services, there has been settled the schedule to transfer the transmitting and receiving system to digital system and to enable the public to access the digital system thoroughly. The NBTC's challenge is to accelerate time schedule to implement the digital system effectively and efficiently according to the Master Plan of Broadcasting and Television Business No. 1, B.E. 2555 (2012) – 2559 (2016) in enhancement of country wide access to quality receiving broadcasting digital signal. Besides this, solution to sufficient capacity of radio frequencies for broadcasting at present is achieved.





Obstacles, Problems and Challenges in Telecommunications Services

In B.E. 2556, obstacles, problems, and challenges in regulating telecommunication Services are summarized as follows:

1. Though, the National Telecommunications Commissioners NTC has accelerated the NBTC Notifications B.E..... related to criteria, licensing, conditions of satellite telecommunications and now has been arranging focus group hearing meeting before proposing for consideration of the commissioners, and the NBCT commissioners for approval of notification draft for further public hearing meeting. However, issues on satellite communication business are a part of service provider. There has not been clarified with respect to authorization of the NBTC and government policy of freedom to satellite communication business of service providers and clarification of related laws, policy and regulation framework between Ministry of Information and Communication Technology, and NBTC to appropriately regulate satellite telecommunication service. Therefore, there should be change and improvement in laws related to satellite communication advancement and present suitability. In addition, research and development for satellite communication technology and its human resource on expertise development to serve satellite communication applications which are more and more important to Thai society in the future.

2. For issues of providing guidelines to conduct activities after the termination of licensing, concession, and contracts in telecommunications services, the National Telecommunications Commission (NTC) has issued NBTC Notification on Temporary Measures of Consumer Protection after Termination in B.E. 2556 (2013). At the same time, there has been still other concession contracts to be expired, but NTC has been drafting “Roadmap for Telecommunications Spectrum Management in Thailand 2014-2033” for regulating spectrum for optimal benefit and high efficiency in telecommunications services emphasizing the policy clarification, vision in frequency for telecommunication services which make consumers and service providers able to plan for long term business development for prosperity of telecommunications industry in Thailand. Presently, the drafted proposal of such issues are brought into consideration of the NTC and the NBTC’s meetings for approval and following public hearing for future notification, which will also include the spectrum reframing requiring time for consideration of the NTC and Thai government to jointly work on spectrum as national telecommunications resources management, without negative consequences for consumers and slowdown in investments, and also for the maximum benefits of the country.





Appendix





Appendix A : List of NBTC's Notifications, Regulations, Orders in 2013

Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
1	NBTC Notification on General Category Principle to Television Broadcasting Program B.E. 2555 (2012)	130	Special 1 D	4 Jan. 2013
2	NBTC Notification on Cancellation of Some NBTC's Regulations, B.E. 2556 (2013)	130	Special 5 D	16 Jan. 2013
3	Word Correction Notification on NBTC's Regulation on Uniform and Dress Code of NBTC's Employee, Secretary Officers 2012 (Published on 26 Dec. 2012 in Royal Gazette, No. 129 Special 195 D, page 14)	130	Special 5 D	16 Jan. 2013
4	NBTC's Notification on Code of NBTC's Staff Performing Duty in Clause 53 of Operation of the Sound Broadcasting Service and the Television Broadcasting Service Act B.E. 2552 (2009)	130	Special 11 D	25 Jan. 2013
5	NBTC Notification on Principles of Fact Gathering of Illegal Activities in Broadcasting and Television Services, B.E. 2556 (2013)	130	Special 11 D	25 Jan. 2013
6	NBTC Notification on Issuing Automatic License for Radiocommunications	130	Special 13 D	29 Jan. 2013





Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
7	NBTC Notification on Training and Receiving for Announcer's Certification in Broadcasting and Television Services, B.E. 2556 (2013)	130	Special 15 D	1 Feb. 2013
8	Word Correction on NBTC Notification Quality Standard of Data Telecommunication Service of Mobile/Cellular Network (Published in Royal Gazette No. 129, Special Section 152 D, 5 Oct. 2012, Appendix Page 3, Table for No. 2.1, 2.3, 2.4, and 2.5)	130	Special 17 D	5 Feb. 2013
9	NBTC Notification on Technical Standard of Telecommunication Equipment in Case of Definite Failure	130	Special 21 D	14 Feb. 2013
10	NBTC Notification on Meeting Procedure of National Broadcasting and Telecommunications Commission (Paper 2), B.E. 2556 (2013)	130	Special 22 D	15 Feb 2013
11	NBTC Notification on Term of Reference and Permission Procedure to Use of Spectrum for Digital Television Service Business, B.E. 2556 (2013)	130	Special 26 D	26 Feb. 2013
12	NBTC Notification on Additional Term of Reference and Permission Procedure for Digital Television Network Services Using Terrestrial Spectrum, B.E. 2556 (2013)	130	Special 26 D	26 Feb. 2013





Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
13	NBTC Regulation on Criteria and Necessity to Spectrum Usage in Broadcasting and Television Services and Time Frame to Return Spectrum, B.E. 2556 (2013)	130	Special 27 D	27 Feb. 2013
14	NBTC Regulation on Reduction and Exemption of Licensing Fees for Broadcasting and Television Services, B.E. 2556 (2013)	130	Special 27 D	27 Feb. 2013
15	NBTC Notification on Criteria for Broadcasting and Television Program Schedules, B.E. 2556 (2013)	130	Special 27 D	27 Feb. 2013
16	NBTC Notification on Telecommunication Equipment Passing Conformity Assessment and Being Certified (No. 8/2012)	130	Special 24 D	7 Mar. 2013
17	NBTC Mandate No. 34/2013 on Rate of Temporary Network Connection Cost for Licensor of International Mobile Telecommunication - IMT at 2.1 GHz.	130	Special 33 D	12 Mar. 2013
18	NBTC Notification on Criteria of Category and Grouping of Non-Frequency Television Services, B.E. 2556 (2013)	130	Special 52 D	26 April 2013
19	NBTC Notification on Virtual Network on Mobile Phone Services, B.E. 2556 (2013)		Special 53 D	29 April 2013





Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
20	NBTC Notification on Interconnection Services on In-land Mobil Phone Networks, B.E. 2556 (2013)	130	Special 53 D	29 April 2013
21	NBTC Notification on Common Use of Telecommunication Infrastructure for Mobile Phone Network , B.E. 2556 (2013)	130	Special 53 D	29 April 2013
22	NBTC Notification on Equipment Passing Conformity Assessment and Being Certified (No. 1/2013)	130	53 D	16 May 2013
23	NBTC Notification on Technical Standard for Terrestrial Television Receivers in Digital System (No. 2), B.E. 2556 (2013)	130	Special 60 D	21 May 2013
24	NBTC Notification on Criteria of Time Sharing of Program Operators	130	Special 60 D	21 May 2013
25	NBTC Notification on Criteria and Procedure in Granting Frequency Usage for Broadcasting and Television Business, B.E. 2556 (2013)	130	Special 67 D	4 June 2013
26	NBT Notification on Technical Standards of Telecommunication Receivers Capable of Receiving or Transforming Signals in Subscription Business and for Satellite TV Connection, B.E. 2556 (2013)	130	Special 67 D	4 June 2013





Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
27	NBTC Notification on Frequency Allocation of Radio Communication for State Security Service, B.E. 2556 (2013)	130	Special 69 D	10 June 2013
28	NBTC Notification on Activities of Taking Advantages of Consumers in Broadcasting and Television Services No. 5(12)	130	Special 77 D	26 June 2013
29	NBTC Notification on Telecommunication Equipment Passing Conformity Assessment and Being Certified (No. 2/2013)	130	77 D	25 July 2013
30	NBTC Notification on Telecommunication Equipment Passing Conformity Assessment and Being Certified (No. 3/2012)	130	80 D	1 Aug. 2013
31	NBTC Notification on Cancellation of NBTC's Notification on Free Trade of International Private Leased Circuit : IPLC with Having Its Own Network	130	Special 81 D	4 July 2013
32	NBTC Notification on Criteria for Broadcasting Television on Grand Sport Program B.E.2556 (2013)	130	Special 83 D	11 July 2013





Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
33	NBTC Notification on Telecommunication Equipment for Broadcasting and Television Business Passing Conformity Assessment and Being Certified B.E. 2556 (2013)	130	Special 83 D	11 July 2013
34	NBTC Notification on Additional Authorization of Officers to Perform Duties for NBTC Committee in Regulating Broadcasting and Television Business	130	Special 85 D	15 July 2013
35	NBTC Notification on Radio Communication Equipment and Station for Broadcasting and Television Services with Exemption from Granted License According to Radiocommunications Act B.E. 2498 (1955) and B.E. 2556 (2013)	130	Special 91 D	31 July 2013
36	NBTC Notification on Term of Reference, Criteria for Frequency Auction for Television Service in Digital System at National Category, B.E. 2556 (2013)	130	Special 100 D	14 Aug. 2013
37	NBTC Notification on Telecommunication Equipment Passing Conformity Assessment and Being Certified (No. 4/2013)	130	86 D	15 Aug. 2013
38	NBTC Notification on Criteria, Procedure, Standard Certification of Radiocommunication Equipment for Broadcasting and Television Services	130	Special 102 D	20 Aug. 2013





Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
39	NBTC Notification on Telecommunication Equipment Passing Conformity Assessment and Being Certified (No. 5/2013)	130	92 D	29 Aug. 2013
40	NBTC Notification on Protection Measure of Temporary Consumers During Expired Concession License or Expired Mobile Service Contract of Providers, B.E. 2556 (2013)	130	Special 108 D	29 Aug. 2013
41	NBTC Notification on Regulation Criteria of Radio Broadcasting Services Testing, B.E. 2556, (2103)	130	Special 122 D	23 Sep. 2013
42	NBTC Notification on Criteria for Country-wide Fundamental Telecommunication Service and Social Public Service, B.E. 2556 (2013)	130	Special 129 D	3 Oct. 2013
43	NBTC Notification on Standardized Calculation of Feet Rate for Communication Network Linkage	130	Special 144 D	25 Oct. 2013
44	NBTC Notification on Announcement of Guidelines for Appropriate Program on Criteria of Broadcasting and Television Services B.E. 2556 (2013)	130	Special 147 D	29 Oct. 2013
45	NBTC Notification on Officer Appointment for License Issuance According to Radiocommunications Act B.E. 2498 (1955), Addition	130	Special 159 D	18 Nov. 2013





Item	Title	Royal Gazette		
		No.	Chapter	Promulgated on
46	NBTC Notification on Country-wide Fundamental Telecommunication Services and Social Public Service, No. 2, B.E. 2556 (2013)	130	Special 175 D	6 Dec. 2013
47	NBTC Notification on Officer Appointment for License Issuance According to Radiocommunications Act B.E. 2498 (1955)	130	Special 185 D	11 Dec. 2013
48	NBTC Notification on Authorization of Officers to Perform Duties for NBTC Committee in Regulating Broadcasting and Television Services	130	Special 185 D	11 Dec. 2013
49	NBTC Notification on Utilization and Interconnection of Telecommunication, B.E. 2556 (2013)	130	Special 180 D	12 Dec. 2013
50	NBTC Notification on Criteria of Television Service Categorization, B.E. 2556 (2013)	130	Special 184 D	19 Dec. 2013
51	NBTC Notification on Standardization of Contract for Subscription Type Television Services, B.E. 2556 (2013)	130	Special 192 D	27 Dec. 2013





Appendix B : Public Hearing Activities in 2013

No.	Subject	Period/Date	Channel/Venue
1	Public Consultation Meeting on the (Draft) NBTC Notification on Additional Criteria and Procedures for Provision of Digital Terrestrial Television Services (Addendum)	27 December 2012 – 9 January 2013	NBTC's Website
2	Public Consultation Meeting on 2 of the (Draft) NBTC Notifications on 1)Draft Notification on Additional Criteria and Procedures for Provision of Digital Terrestrial Television Services (Addendum) 2)Draft Notification on Criteria for Time slot Subcontracting	8 January 2013	Conference Hall, 2 nd Floor, Office of NBTC
3	Public Consultation Meeting on the (Draft) NBTC Notification on Technical Standards for Receivers Used in the Reception or Signal Adaptation of Broadcast Programs or Subscription-based Television Services for the Connection to Satellite TV B.E....	17 January – 17 February 2013 17 January 2013	NBTC's Website Conference Hall, 2 nd Floor, Office of NBTC
4	Public Consultation Meeting on the (Draft) NBTC Notification on Criteria for Classification and Prioritization of Non-Frequency Television Services	19 January – 17 February 2013 5 February 2013 (Public Consultation Meeting)	NBTC's Website Grand Ballroom, Ground Floor, Rama Gardens Hotel, Bangkok
5	Public Consultation Meeting on the (Draft) NBTC Notification on Criteria for the Universal Accessibility of Basic Telecommunication Services and Social Services B.E. ...	7 February – 8 March 2013	NBTC's Website





No.	Subject	Period/Date	Channel/Venue
6	Focus Group Meeting on the (Draft) NBTC Notification on Criteria for the Broadcast of Major Sporting Events B.E. ...	15 February 2013	Conference Hall, 1 st Floor, Office of NBTC
7	Public Consultation Meeting on the (Draft) NBTC Notification on Technical Standards for Digital Terrestrial Television Receivers (No.2) B.E. 2556	20 February – 5 April 2013 22 March 2013 (Public Consultation Meeting)	NBTC's Website Conference Hall, 2 nd Floor, Office of NBTC
8	Public Consultation Meeting on the (Draft) NBTC Notification on Technical Standards for Digital Terrestrial Television Receivers (No.2) B.E. 2556	27 February 2013 (Focus Group from Industry Forum) 27 March – 2 April 2013	Century Park Hotel, Bangkok NBTC's Website
9	Focus Group Meeting on the (Draft) NBTC Notification on the Results Appraisal Value of Digital Terrestrial Television Spectrum	11 March 2013	Conference Hall, 2 nd Floor, Office of NBTC
10	Panel Discussion with Related Parties in the Preparation for AEC in Broadcasting Services	19 March 2013	Grand Ballroom, 3 rd Floor, Century Park Hotel, Bangkok
11	Panel Discussion with Related Parties in the Preparation for AEC in Broadcasting Services Consultation Meeting with Stakeholders and General Public on the (Draft) NBTC Notification on Criteria for the Permission of Telecommunication Equipment Utilization in Small Base Stations	25 March – 24 April 2013	NBTC's Website





No.	Subject	Period/Date	Channel/Venue
12	1 st Annual Public Forum 2013 on the topic of “Golden Year of Consumer Protection and the Transition to Digital Television Era”	21 March 2013	Conference Hall, 1 st Floor, Office of NBTC
13	Focus Group Meeting on the (Draft) NBTC Notification on Regulatory Framework for the Ceiling of Number of Channels and Standards for the Calculation of Network Service Fees	3 April 2013	Conference Hall, 2 nd Floor, Office of NBTC
14	Public Consultation Meeting on the (Draft) NBTC Notification on the Examination and Certification of Radio Communication Equipment and Equipment Used in Broadcasting Services B.E. ...	27 March – 30 April 2013 29 April 2013 (Public Consultation Meeting)	NBTC’s Website Conference Hall, 1 st Floor, Office of NBTC
15	Public Consultation Meeting on the (Draft) NBTC Notification on Criteria and Procedures in the Selection of Broadcast Spectrum Bands for Business Operation B.E. ...	5 April – 12 April 2013	NBTC’s Website
16	Public Consultation Meeting on the (Draft) NBTC Notification on Compliance Criteria for Broadcasting (Trial)	5 April – 7 May 2013 2 May 2013 (Public Consultation Meeting)	NBTC’s Website Vayupak Convention Centre 4 th Floor, The Central Government Complex Commemorating Rattthaprasasanabhaktion Chaengwattana Road, Bangkok
17	Public Consultation Meeting on the (Draft) NBTC Notification on the License Exemption of Radiocommunications Equipment and Radiocommunications Stations Pursuant to Radiocommunications Act B.E. 2489	19 April – 20 May 2013	NBTC’s Website





No.	Subject	Period/Date	Channel/Venue
18	Public Consultation Meeting on the (Draft) NBTC Notification on Criteria for Broadcasting of Significant Programs B.E. ...	17 April – 2 May 2013 2 May 2013 (Public Consultation Meeting)	NBTC's Website Conference Hall, 1 st Floor, Office of NBTC
19	Public Consultation Meeting on the (Draft) NBTC Notification on the Examination and Certification of Radio Communication Equipment and Equipment Used in Broadcasting Services B.E. ...	27 March – 30 April 2013 29 April 2013 (Public Consultation Meeting)	NBTC's Website Conference Hall, 1 st Floor, Office of NBTC
20	Public Consultation Meeting on the (Draft) NBTC Notification on Criteria and Procedures for the Collection of Revenue to be Used for the Universal Accessibility of Basic Telecommunication Services and Social Services (No. 2)	9 May – 7 June 2013	NBTC's Website
21	Public Consultation Meeting on the (Draft) NBTC Notification on Standards for the Calculation of Fees for Telecommunication Network Connection	27 May – 3 July 2013	NBTC's Website





No.	Subject	Period/Date	Channel/Venue
22	Public Consultation Meeting on the (Draft) NBTC Notification on Criteria, Procedures and Conditions for the Auction of Licences for Digital Terrestrial Television Frequencies, Business Service at National Level Type B.E. ...	23 May – 10 July 2013 27 June 2013 (Public Consultation Meeting) 26 June 2013 (Public Consultation Meeting)	NBTC's Website Kamolthip 2 Ballroom, The Sukosol Hotel, Bangkok Magic 2 Ballroom, Miracle Grand Convention Hotel, Vibhavadi Rangsit Road, Lak Si, Bangkok
23	Public Consultation Meeting on the (Draft) NBTC Notification on Protection Measures for Users of Telecommunication Services in Case of the Expiration of Concession or Contracts for Mobile Phone Services B.E. ...	28 June – 17 July 2013 25 July 2013 (Public Consultation Meeting)	NBTC's Website Thai Army Club Vibhavadi Road, Bangkok
24	Public Consultation Meeting on 2 of the (Draft) NBTC Notifications on 1)(Draft) NBTC Notification on Permitting the Use of Short Range Devices in 57-66 GHz Bands in Wireless Local Area Network (WLAN) or Wireless Personal Area Network (WPAN) B.E. ... 2)(Draft) NBTC Notification on Technical Standards for Telecommunication Equipment Re: Short Range Devices in 57-66 GHz Bands in Wireless Local Area Network (WLAN) or Wireless Personal Area Network (WPAN) B.E. ...	4 July – 9 August 2013	NBTC's Website





No.	Subject	Period/Date	Channel/Venue
25	Public Consultation Meeting on the (Draft) NBTC Notification on the Use of and Connection to Telecommunication Network B.E. ...	19 July – 19 August 2013	NBTC's Website
26	Public Consultation Meeting on the (Draft) NBTC Notification on the Consideration Guidelines of Revenue from Operating Broadcasting Services Used in the Calculation of Annual License Fees	1 st , 5 August 2013 2 nd , 26 August 2013	Conference Hall, 1 st Floor, Office of NBTC Conference Hall, 2 nd Floor, Office of NBTC
27	Public Consultation Meeting on the (Draft) NBTC Notification on Compliance Criteria for Program Content in Broadcasting Services B.E. ...	22 August – 22 September 2013 15 August 2013 (Public Consultation Meeting)	NBTC's Website Grand Ballroom, 3 rd Floor, Century Park Hotel, Bangkok
28	Public Consultation Meeting on the (Draft) NBTC Notification on Television Services Prioritization B.E. ...	19 August – 3 October 2013 2 October 2013 (Public Consultation Meeting)	NBTC's Website Conference Hall, 2 nd Floor, Office of NBTC
29	Public Consultation Meeting on the (Draft) NBTC's Notification on Criteria for Program planning for Broadcasting Services (No. 2) B.E. ...	30 September – 13 November 2013	NBTC's Website





No.	Subject	Period/Date	Channel/Venue
30	Public Consultation Meeting on 2 of the (Draft) NBTC Notifications on 1) (Draft) Notification on Technical Standards for Telecommunication Equipment and Equipment Used for Radiocommunications at Base Stations and Repeater Stations in International Mobile Telecommunications (IMT) with Evolved Universal Terrestrial Radio Access (E-UTRA) 2) (Draft) Notification on Technical Standards for Telecommunication Equipment and Equipment Used in Slave Stations in International Mobile Telecommunications (IMT) with Evolved Universal Terrestrial Radio Access (E-UTRA)	3 October 2013 (Public Consultation Meeting)	Conference Hall, 2 nd Floor, Office of NBTC
31	Public Consultation Meeting on the (Draft) NBTC Notification on Standards for Contracts of Subscription-Based Television Services B.E. ...	15 October – 13 November 2013	NBTC's Website
32	Public Consultation Meeting on the (Draft) NBTC Notification on Classification and Categories of Broadcasting Services (No. 2) B.E. ...	26 November 2013 – 20 January 2014	Via e-mail, facsimile, direct submission or registered post
33	Public Consultation Meeting on the (Draft) NBTC Notification on Telecommunications Numbering Plan B.E. ... and (Draft) NBTC Notification on Criteria for Allocation and Management of Telecommunications Numbers B.E. ...	2 December 2013 (Public Consultation Meeting)	Centara Grand Hotel at Central Plaza Ladprao, Bangkok





Appendix C : List of Works on Researches by NBTC in 2013

List of Works or Researches by NBTC	Agencies/Researchers (the NBTC, Scholars)
Dissertations/Theses of Overseas Educational Institutes	
Implementing Spectrum Commons: Implications of Thailand	Natthawut Arjpru Doctor of Philosophy Department of Technology Management and Economics, Chalmers University of Technology
Theses of Domestic Educational Institutes	
Measurement and Analysis of the Ionospheric Data at Conjugate Point in Southeast Asia	Noraset Wichaipanich Doctor of Engineering Faculty of Engineering, King Mongkut's Institute of Technology Ladkrabang
Narrow Spectral Width Generation Based on Nonlinear Multi-step Microring Resonators	Phongphutai Udomariyasub Doctor of Engineering in Electrical Engineering King Mongkut's Institute of Technology Ladkrabang
NBTC's Internal Units	
Report on Study Results and Suggestions by Preparation Subcommittee for the Management of Cellular Radio Communications Frequency Bands: Digital PCN (Persona Communication Network) 1800	Telecommunications Licensing Bureau (1)
Thailand Telecom Industry Database	Telecommunications Policy and Resources Bureau
Summary of Criteria in Broadcasting Business	Broadcasting Policy and Research Bureau
Calculating Minimum Median Equivalent Field-strength Required in the Reception of Various Signals	Broadcasting Engineering Standard Approval Bureau





List of NBTC's Works or Researches by External Entities in 2013

List of NBTC's Works or Researches (Outsourced)	Agencies
Report on the Study Project of Leased Line Compliance Arrangements	Australian Studies Centre Thammasat University
Telecommunications Network Access Fees and Compliance of Telecommunications Charges for Telephone Services in 3G Era	Detecon Asia-Pacific Company Limited
Advisor Employment Project for the Planning of Telecommunications Infrastructure Utilization	Business Navigator Consulting Company Limited (BNC)
Report on the Study Project of Guidelines, Formats and Compliance in Operating Public Services	Chula Unisearch Chulalongkorn University
Report on the Study Project to Determine Community's Readiness for Community Radio Stations in Thailand	Chiang Mai University
Report on the Study Results of Effects of Radio Broadcasting on Problems of Violence in Thailand's Three Southern Border Provinces	Consulting Centre National Institute of Development Administration
Report on Research Results of Cultural Conflict Management	National Security Council
Comprehensive Report on Public Access, Recognition and Information Requirements in Broadcasting Business	Bureau of Academic Support and Service King Mongkut's Institute of Technology Ladkrabang
Comprehensive Report on Surveys on Broadcasting Services for the Disabled, the Elderly and the Underprivileged	Bureau of Academic Support and Service King Mongkut's Institute of Technology Ladkrabang
Compliance Report on Broadcasting Charges	Detecon Asia-Pacific Company Limited





List of NBTC's Works or Researches (Outsourced)	Agencies
Report on Licensing and Frequency Fees (per annum)	Detecon Asia-Pacific Company Limited
Report on Value Appraisal of Digital Terrestrial Television Spectrum	Faculty of Economics Chulalongkorn University
Report on Project of Ensuring Cyber Security in Thailand	Office of Academic Services Silpakorn University
Report on Internet Surveys and Thailand's Communication Market's Worth in 2012 and Forecast for 2013	National Science and Technology Development Agency, Ministry of Science and Technology
Report on Surveys Thais' Usage Behavior of Telecommunications Service from 2012-2013	Institute for Study of International Cooperation Thammasat University
Spectrum Auction for Licensing International Mobile Telecommunications Service in Spectrum Band of 2.1 GHz	Power Auctions Company Limited United States and America
Report on the Study to Determine Suitable Guidelines in Designing IT System Used in Spectrum Management	Research and Consultancy Institute Thammasat University
Report on NBTC's Guidelines for the Execution of Special Operations in Thailand's Times of Disaster	Research and Consultancy Institute Thammasat University
Report on Construction of Academic Database for Cyber Security and Information Warfare	Research and Consultancy Institute Thammasat University
Report on Pilot Hotline Project to Develop ISP's Self-compliance Mechanism and to Reduce Corruption Risks	King Mongkut's Institute of Technology Ladkrabang
Report on the Study of Permission Guidelines and Compliance of Businesses that Employ LTE Technology	Detecon Asia-Pacific Company Limited
Advisor Employment Project to Study and Compile Notebook Design Methodologies for People with Visual Disability in Internet Usage	Artful Economics and Engineering Consultant Company Limited





List of NBTC's Works or Researches (Outsourced)	Agencies
Report on History of Thai Communication Related to Thai Kings and the Importance of Digital File Format in Telecommunications	Prung Pictures Company Limited
Report on the Preparation of Documents and Media for People with All Types of Disabilities to Ensure Access to Legal Contents and NBTC Notifications and Public Consultation Meetings Nationwide	Broadband Association for the Disabled and Underprivileged in Thailand
Report on IP Address Database for Telecommunications Service Providers in Thailand	Research and Consultancy Institute Thammasat University
Report on the Development of Warning System by Public Sector in Case of Excessive Propagation of Electromagnetic Wave by Cellular Base Stations	King Mongkut's Institute of Technology Ladkrabang
Report on the Study of Efficiency and Standards of QoS in 3G Mobile Network	Turnkey Communication Services Company Limited
Report on the Study of Suitability and Compliance Guidelines for 4G Advance Technology in Thailand	King Mongkut's Institute of Technology Ladkrabang
Report on the Study Results of Effects of Radio Broadcasting on Problems of Violence in Thailand's Three Southern Border Provinces	Consulting Centre National Institute of Development Administration
Report on Research Results of Cultural Conflict Management	National Security Council





Highlights

of NBTC's Activities in 2013





Highlights of NBTC's Activities in 2013



Air Chief Marshal Thares Punsri, Chairman of NBTC, Installs a New Garuda with Old Thai Horn
January 10, 2013, 10.57 am, at the Entrance of the NBTC



Air Chief Marshal Thares Punsri, Chairman of NBTC, and the Commissioners with the Secretary General
of the NBTC Open House of the NBTC for National Children's Day
January 12, 2013, at Phaholyothin Soi 8





Air Chief Marshal Thares Punsri, Chairman of NBTC, presiding over the Event gives the Opening Lecture on the topic of “Awareness of the Dangers of Wireless Radiation”. The NBTC Commissioner **Mr.Pravit Leesatapornwongsa** also Joins the Event as a Speaker
January 24, 2013, at Grand Ballroom, Intercontinental Hotel, Bangkok



Air Chief Marshal Thares Punsri, Chairman of NBTC, and **Mr. Takorn Tantasith**, Secretary General of NBTC, listen to the experiences in Cyber World and Give the Advices to Consumers
January 25, 2013, at the 1st floor, Terminal 21



Air Chief Marshal Thares Punsri, Chairman of NBTC, **Colonel Settapong Malisuwan**, Ph.D., Vice Chairman of NBTC (Chairman of the National Telecommunications Commission of the NBTC), **Dr. Suthiphon Thaveechaiyagarn**, Commissioner of NBTC, **Assoc. Prof. Prasert Silpipat**, Commissioner of NBTC, **Asst. Prof. Thawatchai Jittrapanun**, Commissioner of NBTC and **Mr. Takorn Tantasith**, Secretary General of NBTC, Attend the Opening of International Telecommunication Union (ITU) to Support the Expansion and Facilitate to Member Countries in Asia and Pacific (38 Countries at present) February 14, 2013, at the 5th floor, Training Center, Thai Post Co., Ltd., Chang Wattana Road



The Committees of the National Broadcasting and Telecommunications Commission Attend the Television Recording to Felicitate the Queen Sirikit on the Occasion of National Mother's Day July 4, 2013, at Modern Nine Television Station

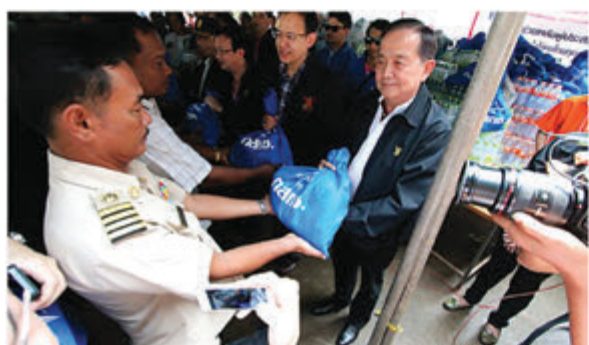


Chairman of NBTC and the Commissioners Jointly Pay Respect on Occasion
of National Communications Day
August 4, 2013, at the NBTC office and CAT Telecom Public Co., Ltd.





On the Occasion of the Celebration of 81st Anniversary of Her Majesty Queen and National Mother's Day,
the NBTC Office Held the Event to Make Merits by Giving Alms to the Monks to Contribute to a Royal Charity
August 9, 2013, at King Rama V Monument yard, the NBTC Office



Air Chief Marshal Thares Punsri, Chairman of NBTC, donates the disaster relief packages for the flood victims,
with the NBTC commissioner **Dr. Suthiphon Thaveechaiyagarn**, **Mr.Pravit Leesatapornwongsa**, Secretary
General of NBTC **Mr. Takorn Tantasith**, Air Vice Marshal **Thanapan Raichareon**, Deputy Secretary General of
NBTC **Mr.Korkij Danchaivichit** Deputy Secretary General and the entrepreneurs of Mobile phone and Telephone
Sectors Jointly Donate the Disaster Relief Packages in Flooded Areas
October 4, 2013, at Ban Sang and Prajankham, Prachinburi Province





The NBTC DAY 2013
October 1-4, 2013, at the Office of the NBTC





Air Chief Marshal Thares Punsri, Chairman of NBTC, and the Commissioners Join the 8th Anniversary
of the Establishment of NBTC
October 7, 2013, at the Office of the NBTC





The Chairman and the NBTC Commissioners of the NBTC Jointly Pay
Respect on Occasion of Chulalongkorn Day
October 23, 2013, at the Office of the NBTC





Air Chief Marshal Thares Punsri, Chairman of NBTC, Presides over the Royal Kathin Ceremony.
The Commissioners of NBTC The Secretary General of NBTC, Deputy Secretary General of NBTC,
Provincial Governor of Nakhon Sawan, and Honored Guests Attend the Ceremony
November 16, 2013, at Wat Tak Fah, Nakhon Sawan Province



Air Chief Marshal Thares Punsri, Chairman of NBTC, NBTC Commissioners, with Secretary General of NBTC,
and Employees of the NBTC Jointly Take an Oath of Allegiance to be the Good Government Officers and Powers
of the Country on Occasion of National Father's Day
December 3, 2013, at Auditorium, the office of the NBTC





The NBTC Sports Day
December 20, 2013, at the office of the NBTC





Address of the office of NBTC – Center and Provincial

The office of the NBTC - Center

Address : Office of The National Broadcasting and Telecommunications Commission
Tel. : 0-2271-0151-60
Fax : 0-2278-5316
Website : www.nbtc.go.th

The provincial office of the NBTC Provincial 1 (Nonthaburi)

Address : 41/287 Moo 8 Rattanathibet Rd., Bangkrasau, Muang, Nonthaburi 11000
Responsibility Area : Bangkok, Nonthaburi, Chainat, Pathumthani, Lopburi, Saraburi, Singburi,
Phra Nakhon Si Ayutthaya, Samutprakarn, Ang Thong, Chachengchao,
Prachinburi, Ratchaburi, Nakhonnayok, Nakhonpathom, Kanchanaburi,
Petchburi, Samutsakhon, Suphanburi
Tel. : 0-2588-3594, 0-2950-5875
Fax : 0-2950-5876
E-mail : mtr_nb@nbtc.go.th
Signal Call : HS0AA

Provincial 2 (Ubon Ratchathani)

Address : 550 Moo 11, Klang Arwut, Khamyai, Muang, Ubonratchathani 34000
Responsibility Area : Ubon Ratchathani, Sisaket, Surin, Roi Et, Mukdahan, Yasothon,
Amnatchareon
Tel. : 0-4528-1706-9
Fax : 0-4531-4024
E-mail : mtr_ub@nbtc.go.th
Signal Call : HS3AA

Provincial 3 (Lampang)

Address : 248 Moo 12, Jamadhewi Rd., Bo-Haew, Muang, Lampang 52100
Responsibility Area : Lampang, Chiang Rai, Phayao, Nan, Phrae, Uttaradit
Tel. : 0-5431-3920-2
Fax : 0-5431-3923
E-mail : mtr_lp@nbtc.go.th
Signal Call : HS5AA





Provincial 4 (Songkhla)

Address : 89/1 Hatyai Airport, Thungtamsao, Hatyai, Songkhla 90115
Responsibility Area : Songkhla, Trang, Pattalung, Satul, Pattani, Yala, Narathiwat
Tel. : 0-7425-1901-4
Fax 0-7425-1091
E-mail : mtr_song@nbtc.go.th
Signal Call : HS9AA

Provincial 5 (Chantaburi)

Address : 207 Moo 1, Makham, Makham, Chantaburi 22150
Responsibility Area : Chantaburi, Rayong, Chonburi, Sakaew, Trad
Tel. : 0-3936-1261-2
Fax 0-3938-9437
E-mail : mtr_jb@nbtc.go.th
Signal Call : HS2AA

Provincial 6 (Khonkaen)

Address : 341 Moo 19, Opposite of Wat Mai Non Muang, Sila, Muang, Khonkaen 40000
Responsibility Area : Khonkaen, Nongbualampoo, Loey, Mahasarakham, Kalasin
Tel. : 0-4320-2601-4
Fax 0-4320-2600
E-mail : mtr_kk@nbtc.go.th
Signal Call : HS4AA

Provincial 7 (Nakhon Ratchasima)

Address : 15 Moo 12, Rachasima-Kabinburi Rd., Thongchai-nua, Pakthongchai,
Nakhonratchasima 30150
Responsibility Area : Nakhon Ratchasima, Buriram, Chaiyaphum
Tel. : 0-4496-9568, 0-4496-9569
E-mail : mtr_nr@nbtc.go.th
Signal Call : HS3AZ





Provincial 8 (Udonthani)

Address : Wattana Rd., Mhakkaeng, Muang, Udonthani 41000
Responsibility Area : Udonthani, Nongkhai, Sakonnakhon, Nakhon Phanom
Tel. : 0-4222-3657
Fax 0-4224-2047
E-mail : mtr_ut@nbt.go.th
Signal Call : HS4AZ

Provincial 9 (Chiang Mai)

Address : 68 Moo 7, Ban Khung Mo, Paktok, Muang, Phitsanulok 65000
Responsibility Area : Phitsanulok, Sukhothai, Phichit, Phetchabun, Nakhonsawan, Uthaitani,
Tak, Kampangetch
Tel. : 0-5524-5151-2
Fax 0-5524-5150
E-mail : mtr_pl@nbt.go.th
Signal Call : HS6AZ

Provincial 10 (Phitsanulok)

Address : 190 Moo 7, Ban Kungmor, Parkthong, Muang, Phitsanulok 65000
Responsibility Area : Phitsanulok, Sukhothai, Phichit, Petchaboon, Nakornsawan, Uthai Thani,
Tak, Kampangetch
Tel. : 0-5524-5151-2
Fax 0-5524-5150
E-mail : mtr_pl@nbt.go.th
Signal Call : HS6AZ

Provincial 11 (Phuket)

Address : 84/2 Vichitsongkram Rd., Kathu, Kathu, Phuket 83120
Responsibility Area : Phuket, Phang Nga, Krabi
Tel. : 0-4222-3657
Fax 0-4224-2047
E-mail : mtr_pk@nbt.go.th
Signal Call : HS8AZ





Provincial 12 (Nakhonsrithammarat)

Address : 15 Moo 8, Benjama-Sanambin Rd., Tha-ngiew, Muang,
Nakhon Si Thammarat 80280

Responsibility Area : Nakhon Si Thammarat, Suratthani

Tel. : 0-7576-4191

Fax 0-7576-4190

E-mail : mtr_ns@nbt.go.th

Signal Call : HS8AA

Provincial 13 (Ranong)

Address : 7/5 Kamlangsub Rd., Muang, Ranong 85000

Responsibility Area : Ranong

Tel. : 0-7782-1444

Fax 0-7782-1444

E-mail : mtr_nr@nbt.go.th

Signal Call : HS8AZ

Provincial 14 (Chumphon)

Address : 58/6 Moo 11, Bangmak, Muang, Chumphon 86000

Responsibility Area : Chumphon, Prachuabkirikhan

Tel. : 0-7759-8597-8

Fax 0-7755-3397

E-mail : mtr_cp@nbt.go.th

Signal Call : HS8AH

