

National Broadcasting and Telecommunications Commission (NBTC)

NBTC

ANNUAL REPORT 2016



Long Live The King



In Loving Remembrance of His Majesty
King Bhumibol Adulyadej

The National Broadcasting and Telecommunications Commission,
the Executives and Staff of the Office of the National Broadcasting and Telecommunications Commission



Communications is an essential factor for national development, prosperity, stability and security, especially in the rapid change situations in the world. The prompt and up-to-date of the communications is highly important and all parties and agencies related to national communications should therefore provide cooperation to one another and share their achievements closely and harmoniously. Above of all, they should take a deep and wide study and research of the technical matter and modern technologies, and select a good and effective parts for being applied to their work wisely and proactively in the way that suits the country status and environment so that the national communications are fully developed and able to facilitate the economic and social development and truly support 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)

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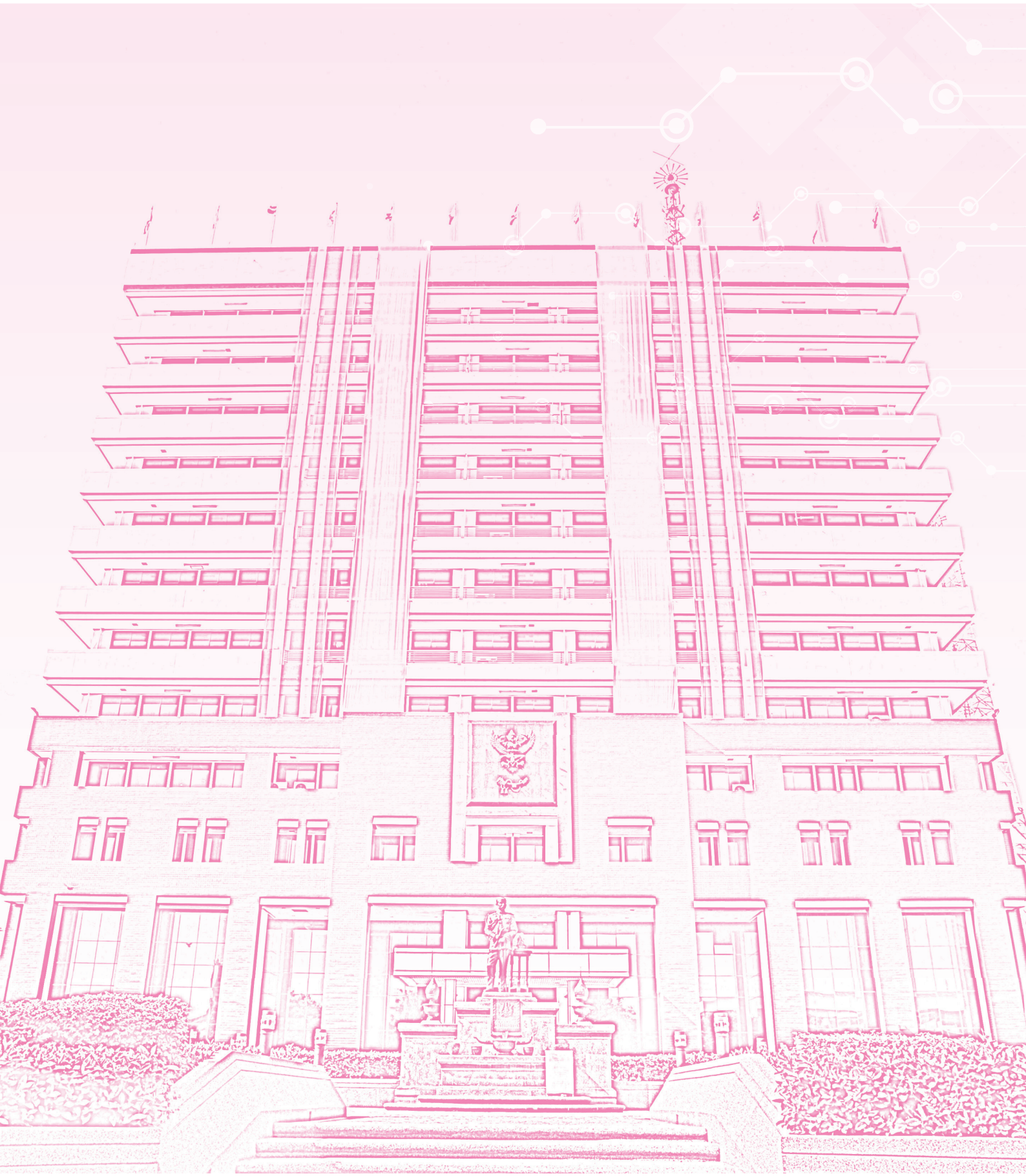



Preface

The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), Article 76 has stipulated that the National Broadcasting and Telecommunications Commission (NBTC) must prepare an annual report, elaborating its performance in management of radio frequency, and broadcasting and telecommunications services business operations, work plans and results, as the case may be, and future work plans, to be submitted to the Cabinet and the Parliament within one hundred and twenty days starting from the ending date of each calendar year, and the report shall be disclosed to the general public for acknowledgement.

The NBTC has thus prepared the NBTC Annual Report 2016 which will be submitted to the Cabinet, the House of Representatives and the Senate, and disclosed to the general public for acknowledgement as well. This report describes power and duties of the NBTC, the Broadcasting Commission (BC), the Telecommunications Commission (TC) and the Office of the National Broadcasting and Telecommunications Commission or the Office of the NBTC, key activities and performance of NBTC throughout the year which are all important for the public and citizen, major performance of the NBTC, BC, TC and the Office of the NBTC, report on market environment and competition in broadcasting, television and telecommunications businesses, trend on broadcasting, television and telecommunications industries in 2017, the budget management in 2016, work plan and budget plan in 2017, as well as problems and obstacles arising from the broadcasting, television and telecommunications business operation in the previous year, details are shown in this report.

The NBTC believes that this NBTC Annual Report will provide useful information for the follow-up and investigation of the NBTC performance on spectrum management and the regulation on broadcasting and telecommunications business in the past year, and fulfill the purposes of the laws, as well as be beneficial to related parties and the general public.

The National Broadcasting and
Telecommunications Commission
February 2017



Message
from the Chairman of the NBTC

The year 2016 is the most tragic time for all Thai citizens following the passing of His Majesty King Bhumibol Adulyadej on 13 October 2016. The National Broadcasting and Telecommunications Commission (NBTC), the Executives, Staff and Employees of the Office of the NBTC commemorate the royal benevolence of His Majesty the King.

The NBTC has fulfilled its mandate in 2016 with full capacity for the prosperity of national broadcasting and telecommunications businesses under the good governance in regulation. The significant achievements are as follows:

In the organization management and development, the Office of the NBTC has signed a memorandum of cooperation with the Office of the National Anti-Corruption Commission with the view to becoming a transparent organization, driving the organizational transparency in all process of implementation in order to support the government and the NCPO's policy on the anti-corruption.

For the spectrum management, the NBTC has re-organized spectrum auction in the frequency band of 900 MHz according to the Order of the NCPO, and hosted the ITU Telecom World 2016, in cooperation with the Ministry of Digital Economy and Society as having been assigned by the Government, which were both very successful.

In broadcasting, the NBTC resolved problems on the digital terrestrial television business operation, regulated the installation of radiocommunications stations and networks for the digital TV switch over to be covered across the country according to the plan for network expansion and area coverage as defined, enforced the NBTC Notification on Criteria for Prioritizing the Television Services in order to support the public to watch digital TV across all platforms, and published information concerning the transition to digital terrestrial television viewing.

In telecommunications service, the NBTC has organized the auction for pretty mobile numbers, organized the installation of communication lines underground for supporting Thailand to become the Capital of ASEAN, and protected consumers from being exploited by service providers as well.

For the action plan for the year 2017, the NBTC will focus on developing and regulating the national broadcasting and telecommunications businesses in order to move the country towards the digital community which will lead Thailand 4.0 into reality. These will be done by accelerating the implementation of the project on universal basic telecommunications services (USO) to support the driving of digital economy and managing spectrum which is a national communication resource, efficiently, leading to the stability, prosperity and sustainability of the country. The NBTC will perform their duties by applying and adhering to the royal consort of King Bhumibol Adulyadej and the science of king.

On behalf of the NBTC, I would like to express my sincere thanks to those who provided their support and cooperation to the NBTC, as well as the Executives, the staff and employees of the Office of the NBTC who dedicated their effort to support the work of NBTC throughout the year. Please be assured that I will lead the organization in good faith and in a transparent manner in order to regulate the broadcasting and telecommunications businesses of the country for the utmost benefits and sustainable development.

Air Chief Marshal

(Thares Punsri)
Chairman of the National Broadcasting
and Telecommunications Commission



Message

from the Vice-Chairman of the NBTC and Chairman of the Broadcasting Commission

The operation of the BC in 2016 has been continued to the year 2015 by focusing on the licensing to use spectrum and broadcasting business operation, the transition to digital radio and television signal transmission, the regulation of broadcasting services, and consumer protection in broadcasting services. The progress of key operation is as follows:

1. Issuance of license to use spectrum and broadcasting and television business operation

In 2016, the BC has continuously considered the licensing to operate radio broadcasting or television services for non-frequency used services, and the licensing to operate radio broadcasting service (trial operation). In terms of the use of spectrum, the NBTC Notifications concerning radio frequency plan and technical standard for radio broadcasting service in FM System have been drafted with the objectives to facilitate the use of spectrum for the existing radio broadcasting in FM system and response to the consumers' needs thoroughly and effectively, in both dimensions of area coverage and spectrum use without interference.

2. The transition to digital radio and television signal transmission

To facilitate and enable the public to receive broadcasting services thoroughly, the BC has continued driving its operation on digital terrestrial broadcasting network expansion to cover all area across the country. During the years 2014 - 2016, the network installation was expanded covering 39 main (high power) stations and 45 low power stations, which can cover 90% of households nationwide. In addition, the BC has provided its support to the public in the transition to digital terrestrial television viewing by mean of coupons distribution, which has been done continuously since the year 2014.

Moreover, the BC has issued several important measures to promote and support the business operation of digital terrestrial television operators, including the reduction of annual fees that must be remitted to the Broadcasting and Telecommunication Research and Development Fund for the Public Interest in case that the licensee has facilitated the people to access the general television services according to the NBTC Notification regarding criteria for broadcasting of general television services, and the adjustment of the rate of annual business license fees to a "progressive rate", which is classified to 5 progressive levels so that the operators have sufficient working capital for their investment and operation in the television industry.

3. The regulation of broadcasting services

In 2016, the BC has carried out activities concerning the prevention of aeronautical radio frequency interference by setting up 3 NBTC Notifications concerning the prevention of aeronautical radio frequency interference caused by radio broadcasting stations, consisting of the NBTC Notification on Criteria for the Prevention of Aeronautical Radio Frequency Interference caused by the Radio Broadcasting Stations that have been assigned the frequency, the NBTC Notification on Criteria for the Measurement of Conducted Spurious Emission of Radio Broadcasting Station (Trial Operation), and the NBTC Notification on Criteria for the Measurement of Conducted Spurious Emission of Radio Broadcasting Station (Trial Operation) (No.2). The objectives of these notifications are to enforce all radio broadcasting stations in FM system on carrying out the prevention of the conducted spurious emission of radio broadcasting station including setting up location monitoring system, area of interference types, and evaluation result on the report of the conducted spurious emission of radio broadcasting stations that have been assigned the frequency.

Also, during the 31st Olympic Games which was held in Rio de Janeiro, Brazil, the BC had overseen the live broadcast of the Olympic Games to ensure that all people were able to universal access and watch the live sports broadcasting equally, according to the NBTC Notification on criteria for the important television programs to be broadcasted only in the public television services B.E. 2555 (2012) (Must-Have rule)

4. Consumer Protection in Broadcasting Services

In the year 2016, the BC has still concentrated in the consumer protection and continued resolving complaints of consumers either the complaints on broadcasting programs and programs content or the acts that are considered to exploit consumers in broadcasting and television services. The operation of the BC has also included monitoring the broadcast of programs or advertising that may be considered as the act that exploits consumers, providing cooperation with organizations concerned for legal action. In addition, the BC has supported the expansion of people's opportunities to access and receive information in the broadcasting and television services to other communities throughout the country.

The BC has also taken a constant operation on the transition to digital television signal transmission in terms of regulation, providing support the people in the digital switch over, issuing measures to promote the digital terrestrial television operators in each area which will be beneficial to industries and the public in overall. The BC also committed itself to regulate the broadcasting and television businesses to be in accordance with the laws and regulations as prescribed, and protect consumers for the stable and sustainable development of Thai radio and television businesses.

On behalf of the BC, I would like to thank all the Executives, the staff and employees of the Office of the NBTC for their great contribution and support. My thanks also extend to all parties concerned for their cooperation and support to the work of the BC so that the people are able to receive and utilize information equally and universally, as well as free and fair competition are created which will help develop the Thai society and economy to be on par with foreign countries.

Colonel

(Natee Sukonrat)
Vice-Chairman of NBTC Commission
Chairman of Broadcasting Commission



Message
from the Vice-Chairman of the NBTC and Chairman of the Telecommunications Commission

In the previous year, the Telecommunications Commission (TC) had carried out activities by focusing on the telecommunications business regulation in order to protect consumers and public benefits as well as taking parts in driving the national economy towards prosperity with innovation, information technology, and communication. The success of major performance is such as the spectrum auction in the frequency band of 900 MHz for the provision of 4G services, the regulation of quality of services and mobile service rates so that the consumers are able to use the services with good quality at a cheaper price, the auction of mobile pretty numbers which gained the revenues of 57,968,888 baht, and after deduction the revenues will be delivered as the state revenues, building security and trust to the public for using mobile payment services which the TC has cooperated with the Bank of Thailand (BOT) to study the guidelines for regulating mobile payment services. The TC also had its Order to suspend the import of mobile phones of Samsung Galaxy Note7 and LAVA Iris 600, Iris 700 and Iris 708 to sell in Thailand for consumers' safety and commercial aircraft users. In addition, the TC has cooperated with authorities concerned regarding the installation of communications lines underground in order to support Bangkok to become the Capital of ASEAN. This includes resolving consumers' problems, such as resolving users' complaints regarding excessive billing or bill shock, Pokemon game problems, etc.



For the coming year of 2017, the TC will accelerate its operation for developing and regulating telecommunications business to be more successful than the past years. The main activities are as follows:

- The formulation of Master Plan on Telecommunications Services No.2 (2017 - 2021) to be used as guidelines for the development and regulation of telecommunications business operation in the next 5 years.
- The regulation of telecommunication operators to provide good quality of services in cheaper price
- The protection of consumers by resolving complaints and unfair treatment problems
- The acceleration of the implementation of the universal service obligation (USO) project in order to support the government's policy on country development
- Having the communication lines organized
- The organization of mobile pretty numbers for additional groups of pretty numbers

The increase of capacity of telecommunications system to support the use of mobile phone of the people who come to pay their respects to the body of the late King Bhumibol Adulyadej as well as the management of telecommunications lines and telecommunications systems in the area of the Royal Plaza to be more efficient.

On behalf of the TC, I wish to thank all parties for their great support and contribution to the work of the TC. I can assure you of the intention and dedication of the TC, the Executives and the staff of the Office of the NBTC to the successful and sustainable development and regulation of the national telecommunications business

Colonel

(Settapong Malisuwan)
Vice-Chairman of NBTC Commission
Chairman of Telecommunications Commission

The National Broadcasting and Telecommunications Commission (NBTC)



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1 Air Chief Marshal Thares Punsri
Chairman of the NBTC

2 Colonel Natee Sukonrat, Ph.D.
Vice-Chairman of NBTC,
and Chairman of Broadcasting Commission

3 Colonel Settapong Malisuwan, Ph.D.
Vice-Chairman of NBTC,
and Chairman of Telecommunications Commission

4 Lieutenant General Perapong Manakit, Ph.D.
NBTC Commissioner

5 Police Colonel Taweesak Ngamsanga
NBTC Commissioner

6 Associate Professor Prasert Silphiphat
NBTC Commissioner

7 Assistant Professor Thawatchai Jittrapanun, Ph.D.
NBTC Commissioner

8 Miss Supinya Klangnarong
NBTC Commissioner

9 Mr.Prawit Leesatapornwongsa
NBTC Commissioner

10 General Sukit Khamasunthorn
NBTC Commissioner



Air Chief Marshal Thares Punsri
Chairman of the NBTC

Education

- 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
- International Military Programs: The Joint Services Command and Staff College, 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

- Air Attache of Seoul, 1991-1994
- Director-General of Air Operations, 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), 2009-2011



Colonel Natee Sukonrat, Ph.D.

Vice-Chairman of NBTC,
and Chairman of Broadcasting Commission

Education

- Bachelor of Science in Engineering, Chulachomklao Royal Military Academy (Gold Medal Award)
- MSEE in Electrical and Telecommunication Engineering, University of South Florida, USA
- Ph.D. in Electrical and Telecommunication Engineering, University of South Florida, USA

Work Experience

- Senior Engineering Officer, Project on Globalstar Low Earth Orbit Satellite, San Diego, California, USA
- Consultant to the iPSTAR Satellite Project
- Chairman of the CDMA Project Steering Committee, CAT Telecom Public Company Limited
- Board of Directors, TOT Public Company Limited
- Acting CEO, TOT Public Company Limited
- Senior Engineering Officer, Armed Forces Telecommunications Office, Royal Thai Armed Forces Headquarters
- Chairman of the Working Group on Community Radio Service
- Sub-committee on Broadcasting and Television Services
- Chairman of the Committee for Drafting Spectrum Management Master Plan and National Table of Frequency Allocation
- Chairman of the Committee for Drafting Telecommunications Services Master Plan
- Chairman of the Committee for the Licensing of Broadband Wireless Access Service (BWA)
- Chairman of the Committee for the Licensing of International Mobile Telephony or 3G and beyond
- Commissioner, the National Telecommunications Commission (NTC)



Colonel Settapong Malisuwan, Ph.D.

Vice-Chairman of NBTC, and Chairman of Telecommunications Commission

Education

- Bachelor of Science in Electrical Engineering (First Class Honors, Gold Medal Award), Chulachomklao Royal Military Academy (Armed Forces Academies Preparatory Pre-Cadet Class 26, Chulachomklao Royal Military Academy, Class 37)
- Master of Science in Electrical Engineering (MS in EE), Georgia Institute of Technology, USA
- Master of Science in Electrical Engineering (Telecommunications), George Washington University, USA
- Ph.D. in Electrical Engineering (Telecommunications), Awarded for Excellence by National Engineering Honor Society (Beta Pi), Florida Atlantic University, Florida, USA

Work Experience

- Platoon Leader, 1st Signal Battalion, King's Guard
- 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 Attached to Deputy Supreme Commander, Royal Thai Army
- Performing duties in CAT Telecom Public Company Limited
  1) Secretary to the President of CAT Telecom Public Company Limited
  2) Committee for Supervising the Operation and Projects of CAT Telecom Public Company Limited
- Associate Professor, Business School, TUI University International USA (Accredited Internet Distance Learning University)



Lieutenant General 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 (Awarded by Germany Government, Thailand-German Student Exchange Program, 1992)

Work Experience

- Rifle Platoon Leader, Rifle Company, the Third Infantry Battalion, the First Infantry Regiment Chamberlain Guard, 1978
- Officer, Strategic Research and Development Administration, Institute of Higher Army Studies, 1993
- Performing duties of special advisor group, Internal Security Operations Command, 1997-2001
- Director of Psychological Operation Division, Military Civil Affairs Department, 1999
- Secretary attached to the Standing Committee on the Military Affairs, the Senate, 2000-2005
- Director of Information Division, Directorate of Civil Affairs, 2001
- Performing official duties to support the Counsellor to the Minister of Defence, 2001-2002
- Assistant Chief of Staff Officer to Deputy Supreme Commander, 2004
- Manager of Satellite Television Division, TV5, 2004
- Expert, the Supreme Command Headquarters, 2005
- Deputy Director, Center for Psychological Operations and Public Relations in the Southern Provinces, National Security Council, 2005-2006
- Producer of the Radio Program on “Ruk Mueng Thai” (Love Thailand), 2006-2007
- Consultant to the Office of National Security Council, 2006-2007
- Spokesman, Ministry of Defence, 2008
- Sub-Committee on Inspection and Investigation in the Committee on Inspection and Investigation for National Reconciliation and Study Research Sub-Committee in the Committee on Inspection and Investigation for National Reconciliation, 2008-2009
- Secretary attached to the Committee for Study and Consideration of Capacity Building and Management of the Army under the Committee on the Military Affairs, House of Representatives, 2009-2011



Police Colonel Taweesak Ngamsanga,
NBTC Commissioner

Education

- Bachelor of Laws, Ramkhamhaeng University
- Master of Public Administration (MPA), Bangkok Thonburi University
- Ph.D. Candidate in Public Administration (DPA), Bangkok Thonburi University

Work Experience

- Deputy Police Inspector (Investigations), Khok Si Suphan Police Station, Sakon Nakhon Province
- Deputy Police Inspector (Patrol), Ban Phai District Police Station, Khon Kaen Province
- Deputy Police Inspector (Investigations), Phon District Police Station, Khon Kaen Province
- Police Inspector (Investigations), Bung Khla District Police Station, Bueng Kan Province
- Deputy Chief of Police Acting Deputy Chief of Police Station, Bung Khla District Police Station, Bueng Kan Province
- A Committee of the Inquiry Official Committee appointed by the Royal Thai Police to be responsible for the Land Fraud Cases (NS.3K) in Nong Khai Province's Area (395 Cases)
- Chief of Police, So Phisai District Police Station, Nong Khai Province
- Chief of Police, Si Chomphu District Police Station, Khon Kaen Province
- Legal Advisor to a Member of the National Legislative Assembly



Associate Professor Prasert Silphiphat

NBTC Commissioner

Education

- Bachelor of Arts (Economics), Chiang Mai University
- M.A. (Economics), Middle Tennessee State University, USA
- Certificate, National Defence College of Thailand, Class 45
- Certificate, Advanced Course for Executives, Class 33
- Certificate, Advance Justice Administration Course for Executives, Class 3

Work Experience

- Professor, Faculty of Economics, Chulalongkorn University, 1975-2001
- Vice-Chancellor, Chulalongkorn University, 1997-2000
- Deputy Secretary-General of King Prajadhipok Institute, 2000-2006
- Special Expert in Economics, the Office of the National Telecommunications Commission (2007-2008)
- Executive Director, the Telecommunications Development Fund for the Public Benefit, Office of the NTC, 2008-2010



Assistant Professor Thawatchai Jittrapanun, Ph.D.,
NBTC Commissioner

Education

- Bachelor of Engineering (Mechanical Engineering), Chulalongkorn University
- Master of Business Administration (Finance), Georgia State University, USA
- Doctor of Philosophy in Business Administration (Ph.D.) (Finance), University of Alabama, USA

Work Experience

- Professor, Faculty of Economics, Chulalongkorn University
- Special Professor of Doctoral Program of Finance (Finance Economics), NIDA
- Special Professor of Doctoral Program of Finance (Finance Economics) for the Joint Doctoral Program in Business Administration (JDBA), Chulalongkorn-NIDA-Thammasat Universities
- Chairman of the B.A. Program in Economics (International Program), Faculty of Economics, Chulalongkorn University
- Chairman of the Computer Centre, Faculty of Economics, Chulalongkorn University
- Scholarship Selection Committee of the NBTC
- Special Lecturer in Finance, Business Administration Course in Public/Private Universities
- Advisor to the Committee on Budget Administration Follow-Up, House of Representatives
- Project Leader, the Index of Exports of the Thai National Shippers' Council



Miss Supinya Klangnarong

NBTC Commissioner

Education

- B.A. in Communication Arts, Mass Communications (Broadcasting), Chulalongkorn University, 1994
- M.A. in Journalism and Mass Communications, Thammasat University, 2000
- M.A. in Communications Policy and Regulation (Merit), University of Westminster, London, 2002

Work Experience

- Sub-committee on the Public Hearing of the Draft Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services
- Deputy Secretary-General, Secretary-General of Campaign of Popular Media Reform
- Lecturer, Center for Human Rights Studies and Social Development. Graduate School, Mahidol University
- Legislative Committee on the Draft the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. ....
- Sub-committee for the Protection of Right and Freedom of Expression of Individuals and Media, under the Committee on Human Rights, Liberties and Consumer Protection, the Senate
- Sub-committee on Broadcasting, and the Working Group for Non-Frequency Services, National Telecommunications Commission
- Vice-Chairman of the Campaign Committee for Media Reform
- A Broad Member of Film Archive (Public Organization)
- Committee for the Promotion of Rights, Liberties and Responsibility of Media
- Advisory Committee to the Project on Consumers Protection Mechanism for Citizen Media, Foundation for Consumers
- Special Lecturer on Media Reform, New Media and Politics and Human Right



Mr.Prawit Leesatapornwongsa
NBTC Commissioner

Education

- Bachelor of Medicine, Chulalongkorn University, 1987
- Bachelor of Political Sciences, Sukhothai Thammathirat University, 1992
- Diploma, Preventive Medicine (Public Health), the Medical Council of Thailand, 1992
- Master of Public Health, Institute of Tropical Medicine, Belgium, 1999
- Diploma, Family Medicine, the Medical Council of Thailand, 2004

Work Experience

- Director of Huai Thap Than Community Hospital, Sri Sa Ket Province
- Director of Si Rattana Community Hospital, Sri Sa Ket Province
- Director of Lat Bua Luang Community Hospital, Ayutthaya Province
- Director of Uthai Community Hospital, Ayutthaya Province
- Chairman of Rural Doctors 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 Telecommunications Consumer Protection Institute (TCI)
- Sub-Committee of the Human Rights, the National Human Rights Commission of Thailand



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, Top Executive Program, Capital Market Academy, Class 15

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 Guard
- 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
- Responsible Person for the Project of the Construction of Entrance and Services Pathways in Suvarnabhumi Airport
- Director of the Royal Project Don Khun Huai, Phetchaburi Province
- Director of the Royal Initiative Project Huai Mae Priang, Phetchaburi Province
- Director of the Queen Sirikit Forest Park Project, Ratchaburi Province
- Director of the Construction Project of Benjakiti Park, Bangkok
- Chief of the Secretariat Office of the Internal Security Operations Command

Executive Summary

This Executive Summary presents the conclusion of the operating performance of the National Broadcasting and Telecommunications Commission (NBTC) in the year 2016 which has been improved for the most efficient according to the observation of the Parliament and the Office of the Auditor General of Thailand since the year 2015. Details are as follows:

Transparency in the organization management: The NBTC has required that all the executives in the positions of Deputy Secretary-General of the NBTC, Principal Expert, Executive Director, Executive Director of the Regional Office of the NBTC, Expert, Director of the Sub-regional Office of the NBTC, and Division Director of the Supply and Asset Management Bureau, submit a declaration listing of all owned assets in the form of the Office of the National Anti-Corruption Commission (NACC) to the Office of the NBTC in order to support the transparency of the organization and respond to the government policies in the prevention and the anti- corruption.

Procurement: The NBTC has abolished the NTC's Regulation on Procurement B.E. 2548 (2005) and its amendment, and issued the NBTC's Regulation on Procurement B.E. 2558 (2015) prescribing that the NBTC shall apply mutatis mutandis the Regulation of the Office of the Prime Minister on Procurement B.E. 2538 (1992) and its amendment to the procurement process of the NBTC to conform to the same standards as other government agencies. As a result, the procurement of the Office of the NBTC has been more efficient and effective, and in the year 2016 the procurement by special arrangement could be reduced to 13 items which were in cases of urgency and inevitability for the amount of 37.21 million baht. Those cases were such as the project on the exhibition arrangement to disseminate knowledge on spectrum auction in the frequency bands of 1800 MHz and 900 MHz to the public, the implementation of the project to build knowledge and understanding of the public regarding the transition to digital television signal transmission via radio broadcasting stations, the publication and distribution of the Royal Guidance and Royal Speech of His Majesty King Bhumibol Adulyadej in the occasion of the New Year festival 2017, etc. The rest procurement by special arrangement was conducted for existing contractors in order to continue their service provision, or the public relations where there was only one service provider. Apart from that, all procurement was conducted by the price quotation and bidding methods.

Annual expenditure budgeting: The NBTC has appointed the Sub-committee for the Office of the NBTC's Budget Consideration consists of the experts from the Bureau of the Budget to consider and screen the budget to be appropriate and in accordance with the legal mission. The NBTC has empowered the Sub-committees to consider the budget independently. In 2016, the NBTC had set up the expenditure budget according to the Strategic Plan as the surplus budgeting. The revenue collection was 10,247.406 million baht while the expenditure budget was totally 5,673.849 million baht, which is expected to have the outstanding balance to be delivered as the state revenue for 4,573.557 million baht.

Budget management process: The NBTC has reduced budget of plans and projects that were unnecessary and that made the budget expenditure concluded within 4,787.543 million baht. Moreover, the NBTC was able to allocate budget to support the mission under the Order of the National Council for Peace and Order on measures to promote radio broadcasting, television and telecommunications business operation for the public benefit, including the reduction of the amount of money to be reserved for overlapped disbursement in next year. There was only the budget reserved for the mission under the NBTC's policy, consisting of the project on the construction of the Office of the NBTC's headquarters building, and the project to build knowledge and disseminate information to the public regarding the transition to digital broadcasting and television signal transmission, as well as the budget reserved for the cases that contract parties have already delivered the work and the Office of the NBTC needs a period of times to inspect and check if the work has been done completely as specified in the contract.

Travelling to foreign countries on official purposes: Since the year 2015 the NBTC has set up the practical guidelines for travelling to foreign countries on official purposes in accordance with the Cabinet's resolution which prescribed that the travelling shall be made only upon the mission of international organization meetings (ITU, WTO) which are necessary to attend. The practical guidelines help reducing the overall budget expenditure both in terms of travel expenses and VIP reception expense during the meetings; when comparing the expenditure of the year 2015 to the year 2014, the expenditure was decreased 40.69 percent, and the year 2016 to the year 2015, the expenditure was decreased 23.07 percent. For the VIP entertainment expense, when comparing the expenditure of the year 2015 to the year 2014, the expenditure was decreased 53.49 percent, and comparing the year 2016 to the year 2015, the expenditure was decreased 42.56 percent.

Reduction of the number and composition of the Sub-committees and Working Groups in order to reduce the spending burden on the remuneration of the Sub-committees and Working Groups (meeting allowance) by reducing the number of the Sub-committees from 60 to 30 and Working Groups from 63 to 19, including adjust the composition of a Sub-committee and a Working Group to be less than 10 people. This operation could save a lot of remuneration budget (meeting allowance) when comparing the year 2015 to the year 2014, the expenditure was decreased 24.38 percent, and the year 2016 to the year 2015 the expenditure was decreased 9.82 percent.

The major performance of the NBTC and the Office of the NBTC in the year 2016 is as follows:

1. Strategy and Organization Management

The NBTC and the Office of the NBTC have focused on building the organization of transparency and performing their mission by adhering to the good corporate governance. Also, the NBTC has announced the policy that all the executives shall submit a declaration listing of all owned assets to the Office of the NBTC in order to support the organizational transparency and respond to the government policies in the prevention and the anti-corruption. The NBTC also issued the NBTC's Order requiring that all the executives in the positions of Deputy Secretary-General of the NBTC, Principal Expert, Executive Director, Executive Director of the Regional Office of the NBTC, Expert, Director of the Sub-regional Office of the NBTC, and Division Director of the Supply and Asset Management Bureau, submit a declaration listing of all owned assets and liabilities in the form of the Office of the National Anti-Corruption Commission (NACC) to the Office of the NBTC within 180 days starting from 1 October 2016. Although the submission of a declaration listing of all owned assets and liabilities required by the Office of NACC has not been enforced on the executives in the positions lower than the Secretary-General of the NBTC, they have provided their cooperation in submitting such assets as well.

Moreover, the Office of the NBTC has signed a Memorandum of Cooperation with the Office of NACC for being the Organization of Transparency and the good model of action.

Under such policy, the NBTC had set up and managed the expenditure budget of the year 2016, which, in turn, could save the expenditure budget and be able to support the government policies. The details are as follows:

(1) Setting up the expenditure budget according to the Strategic Plan as the surplus budgeting. The revenue collection was 10,247.406 million baht while the expenditure budget was totally 5,673.849 million baht, and it was expected that the outstanding balance to be delivered as the state revenue would be 4,573.557 million baht.

Items		Amount (million baht)
1	Essential expense (minimum)	2,123.550
2	Expense commitment over the previous year	957.462
3	Budget total (1 + 2)	3,081.012
4	Expenditure budget for new plans/projects	2,061.640
5	Central budget in case of emergencies and necessities	20.000
6	Expenditure budget total for the NBTC and the Office's mission (3 + 4 + 5)	5,162.652
7	Project on the construction of new building of the Office of the NBTC	232.798
8	Contribution to the Fund	278.400
Total		**5,673.849**

(2) Having adjusted the expenditure budget plan and budget expenditure and carrying out activities under the plans/projects according to the expenditure budget plan of the year 2016 for the total amount of 4,787.543 million baht, which can be classified to the expenditure budget for the mission of NBTC and the Office of the NBTC at the amount of 4,276.345 million baht or accounting for 100.00 percent, the budget for the project of the construction of new building of the Office of the NBTC at the amount of 232.798 million baht or accounting for 100.00 percent, and the budget contributed to the Fund as prescribed by the law at the amount of 278.400 million baht or accounting for 100.00 percent, as shown below:

Items	Fiscal year 2016		
	Plan (million baht)	Result (million baht)	Percent
1 Expenditure budget for the mission of the NBTC and Office of the NBTC	4,276.345	4,276.345	100.00
2 The project on the construction of new building of the Office of the NBTC	232.798	232.798	100.00
Total (1 + 2)	4,509.143	4,509.143	100.00
3 Contribution to the Fund	278.400	278.400	100.00
Total	**4,787.543**	**4,787.543**	**100.00**

However, the review of the results of projects implementation by suspending or canceling unnecessary projects, made the expenditure budget reduced, and the NBTC was able to allocate budget to support the mission under the Order of the National Council for Peace and Order on measures to promote radio broadcasting, television and telecommunications businesses for the public benefits.

(3) Budget expenditure for travelling to foreign countries on official purposes, the NBTC has set up the practical guidelines in accordance with the Cabinet's resolution that the travelling shall be made only upon the mission of international organization meetings such as ITU, WTO, etc., which are necessary to attend, and it could reduce the overall budget expenditure for travelling to foreign countries on official purposes since the year 2014 to 2016, as shown below:

Items	2014	2015		2016	
	Amount (million baht)	Amount (million baht)	Decreased (%)	Amount (million baht)	Decreased (%)
1. The NBTC	28.463	20.172	29.13	15.457	23.38
2. Office of the NBTC	71.994	39.410	45.26	30.379	22.92
Total	**100.456**	**59.582**	**40.69**	**45.836**	**23.07**

(4) Entertainment expense: In travelling to attend the meetings with international organization, such as ITU or WTO, it is necessary for the Office of the NBTC to hold the welcoming party or dinner for the important persons from other organizations during the meetings in order to support the operation of the NBTC. However, according to the travel made only upon the necessary mission, the expense for entertainment decreased constantly as follows:

Items	2014	2015		2016	
	Amount (million baht)	Amount (million baht)	Decreased (%)	Amount (million baht)	Decreased (%)
1. The NBTC	4.652	2.703	41.89	2.314	14.39
2. Office of the NBTC	2.017	0.398	80.24	0.276	30.61
Total	**6.669**	**3.102**	**53.49**	**1.782**	**42.56**

(5) Reduction of the number and composition of the Sub-committees and Working Groups which the budget expenditure on meeting allowance decreased continuously as follows:

Items	2014	2015		2016	
	Amount (million baht)	Amount (million baht)	Decreased (%)	Amount (million baht)	Decreased (%)
Meeting allowance	51.045	38.601	24.38	34.809	9.82

(6) Procurement: In 2016 the NBTC had carried out the procurement process by applying mutatis mutandis the Regulation of the Office of the Prime Minister on Procurement B.E. 2535 (1992) and its amendment to the procurement process of the NBTC. As a result, the number of procurement by special arrangement could be reduced to 13 items, only in cases of urgency and inevitability, at the amount of 37.21 million baht. Those cases were such as the project on the exhibition arrangement to disseminate knowledge on spectrum auction in the frequency bands of 1800 MHz and 900 MHz to the public, the implementation of the project to build knowledge and understanding of the public regarding the transition to digital television signal transmission via radio broadcasting stations, the publication and distribution of the Royal Guidance and Royal Speech of His Majesty King Bhumibol Adulyadej in the occasion of the New Year festival 2017, etc. The rest procurement by special arrangement was made for the existing contractors in order to continue their service provision, or the public relations where there was only one service provider. Apart from that, all procurement process was done by the

price quotation and bidding methods. In addition, measures to accelerate and follow-up the implementation and budget expenditure has been set up in order to supervise and follow-up the implementation and budget expenditure to be in line with the plans as set, resulting in effective expenditure and more revenues to be delivered to the state in the year 2016.

2. Spectrum Management

Having organized the 2nd spectrum auction in the frequency band of 900 MHz on 27 May 2016 under the Order of the Head of National Council for Peace and Order, in which the winner was Advance Wireless Network Company Limited at the bidding price of 75,654 million baht. The revenue received from two spectrum auctions in the frequency band of 900 MHz was totally 151,952 million baht, which the NBTC had already delivered as the state revenue. Not only the spectrum auction could generate more revenues for the state to develop country for the public benefits, but also stimulate the national economy, according to the government's policy, from both direct investment of the operators, who have been granted licenses to use the spectrum and operate 4G business in network building and expansion for providing service, and indirect economic value-added creating from the use of 4G service, which help drive the national economy of billions baht during the year 2016-2017.

In 2016, the Office of the NBTC by the Office of the NBTC Region 1-4 and the 17 Sub-regional offices had monitored the use of spectrum in broadcasting and telecommunications businesses to ensure the efficient and worth use of the spectrum, prevent the frequency interference, and control the radio frequency diffusion to be in line with the standards and conditions attached to the license of the Office of the NBTC. This included technical measurement of radio frequency diffusion, as requested by the authorities concerned both in domestic and international, under the ISO 9001: 2008 standards, and operating in cooperation with police officers or soldiers in searching and arresting the people who commit an offence according to the Announcement of the National Council for Peace and Order.

3. Broadcasting and Television Services

Having resolved the problems of the digital terrestrial television operators in which the results are as follows:

(1) Following-up and regulating the broadcasting or television business licensees for the provision of subscription television network service to provide general television service (digital terrestrial television service), both in the categories of public service and commercial service, in the service order No.1 - 36, respectively in order to support the public's viewing of digital television in all platforms.

(2) Regulating the network installation of radiocommunications stations for the transition to digital television switch over which has already covered 95.1 percent of the areas throughout the country. The implementation has been in line with the plan for network expansion and area coverage as defined.

(3) Supporting the public in the transition to the digital terrestrial television viewing by having distributed 13.571 million digital television coupons in phase 1 to the people for redeeming or buying Set-Top-Box or integrated Digital Television (iDTV) and having continuously publicized information on the viewing of digital terrestrial television to the public.

(4) Having set up the measure for promoting the radio and television broadcasting and telecommunications business for public benefits and proposing its recommendation to the National Council for Peace and Order to enforce the measure under Section 44 in order to build the confidence of operators, both public agencies and private operators, promote the efficiency of the broadcasting, television and telecommunications businesses, and create the stability of the economy system. The Head of the National Council for Peace and Order thus has an Order No.76/2016 dated 20 December 2016 on the measure for promoting the radio and television broadcasting and telecommunications business for public benefits in which the main content consists of:

- Extending payment period for spectrum auction license fees, which was divided into 4 installments, a year for an installment, and the licensees had already paid for 3 installments, in the 4th installment by extending period for payment submission into 2 installments with 1.5 percent of interest per year. For the excess of the minimum fee, the payment shall be made for 6 installments which 3 installments have already been paid; therefore the rest of 3 installments payment shall be extended to 6 installments over a period of 6 years with 1.5 percent of interest per year.



- Having arranged the financial support from the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit on the television signal transmission of general television service via satellite for 3 years.

(5) Setting up measures to reduce the annuity to be delivered to the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit so that the licensees are able to have some type of expenses deducted before submitting the annuity to the Fund.

(6) Adjusting the annual business license fee rate so that the broadcasting and television business license fees be appropriate and in line with the current economic situation and the regulation of the broadcasting and television services and shall not be a burden to operators or users.

(7) Enforcing the law on broadcasting and television business licensees who break the rules and regulations concerning the business operation and have an impact on state security, by having suspended and withdrawn the license to operate the DMC television station of Dhamma Research for Environment Foundation and all radio broadcasting stations involved.

(8) Having carried out activities for consumer protection in broadcasting and television services as follows:

- Having established the center for monitoring illegal content broadcasting in radio, television and online media to monitor the content that may harm consumers, and regulating the programs containing inappropriate content, in collaboration with the Food and Drug Administration (FDA) and the Royal Thai Police, for consumer protection by following-up and monitoring the broadcasting of programs or advertisement that may exploit the consumers as well as imposing the administrative fines on TV stations that broadcasted the illegal advertisement on food and drug.

- Regulating programs broadcasting that had carried out the copyrights infringement on radio, television and online media in order to promote free and fair competition in the business operation.

- Regulating the rates of broadcasting and television service tariff to protect consumers or users so that they are able to get the fair service rates.

- Having publicized and campaigned to build knowledge and understanding of the public including established cooperation with agencies concerned for protecting consumers and supporting the transition to digital terrestrial television viewing continuously.

4. Telecommunications Services

The major performance in telecommunications services is as follows:

(1) Having organized the auction of mobile phone pretty numbers on 27 November 2016 which generated the revenues of 57,968,888 baht, and after deduction the revenues will be delivered as the state revenues. The auction was very successful, as it was the 1st auction in Asian countries and the 3rd auction in the world, and become a good model for other countries, such as Japan, which the government is called by the media to arrange the same auction of mobile phone pretty numbers as Thailand.

(2) Having signed a memorandum of technical cooperation with the Bank of Thailand (BOT) to study guidelines for regulating mobile payment service as nowadays the provision of telecommunications services and financial services have integrated into one service, resulting in an instant increase of financial transaction on mobile phone including e-Wallet spending apart from cash and credit cards.

(3) Regulating the rates and quality of mobile phone service to ensure that the people can use the service with good quality at cheaper price by setting the mobile phone service rates in the frequency band of 2.1 GHz that the voice service must not exceed 0.82 baht per minute, the internet service rate must not exceed 0.28 baht per megabyte, SMS service must not 1.33 baht per message, and MMS service must not exceed 3.32 baht per message. For the mobile phone service rates in the frequency band of 1800 MHz and 900 MHz, the NBTC has regulated that the mobile phone operators must strictly comply with the measure for society and consumer protection as prescribed in the conditions attached to the licenses, and the service rates must be charged based on actual usage in second for every program of sales promotion. Also, the service rates must be lower than the service rate available in the frequency band of 2.1 GHz which means the voice service must be less than 0.69 baht per minute, the internet service must be less than 0.26 baht per megabyte, SMS service must be less than 1.15 baht per message, and MMS service must be less than 3.11 baht per message.

(4) Having regulated, suspended, and restrained the dissemination of inappropriate information by requesting all internet service providers to strictly disseminate information in accordance with the government's guidelines and suspend the dissemination of inappropriate information through websites or online media as well as follow-up and monitor such information, and if the dissemination of inappropriate information has been found, immediate suspension or restraint shall be applied.

(5) Installation of communication lines underground, the NBTC has signed a memorandum of technical cooperation with the Metropolitan Electricity Authority (MEA), Bangkok Metropolitan Administration, Royal Thai Police, and TOT Public Company Limited to carry out the project of the replacement of the overhead line by the underground cable system in order to support Bangkok to become the Capital of ASEAN, by having coordinated with the authorities who provide conduit services to find a solution of laying communications lines underground line in areas of Bangkok, Chiang Mai and Phuket as they are big cities with a number of population and a major tourist attraction. In the past operation, the telecommunication line has been installed underground in the area of Ladprao intersection to Victory Monument, a major business district of Bangkok, to support a variety of service provision such as telephone lines, fiber optic cable, and improve the scenery of the city to be more beautiful as well as ensure safety of life and property of the citizen.

(6) Having protected consumers in telecommunications services as follows:

- Receiving complaints through Call Center 1200 and the NBTC 1200 application installing on mobile phones for receiving complaints regarding quality of mobile signal service provision in case of dropped line, in order to solve the problem of consumers or lighten the suffering caused by the service use.

- Regulating quality of services by having monitored and measured the quality of mobile phone signals of the service providers in the frequency band of 2.1 GHz, having the Drive Test randomly and collecting information of mobile phone signals in different areas throughout the country together with the Walk Test operation to speed up the problem solving for the people.

- Conducting campaigns to raise public awareness about the installation of mobile phone base stations nationwide, to enhance an accurate understanding on the impact of electromagnetic field emission from mobile phone base stations as well as organizing public relations in various areas.

- Resolving the consumers' problems such as internet leak, solving SMS spam by dialing *137 to cancel the service, having established a channel for checking the mobile service usage by dialing *165 free of charge, solving the problems of bill shock, etc.

5. Action Plan for the Year 2017

The NBTC's policies for the operation and budgeting in the year 2017 will be focusing on the protection of the state and public benefits for the utmost benefit as follows:

(1) To build the organization of transparency continuously, especially on budgeting, budget expenditure, procurement, and the provision of licensing service, to ensure that every process of operation is transparent.

(2) To accelerate the delivery of revenue in the year 2016, which has already deducted the operating expenditure, to the Ministry of Finance as state revenue at the beginning of January 2017 immediately without being certified by the Office of the Auditor General of Thailand. It is expected that the revenue to be delivered as state revenue in 2016 will be more than 4,300 million baht.

(3) To decentralize all types of licensing to the Office of the NBTC Region 1-4 to be able to operate on behalf of the Office of the NBTC in the Headquarters to facilitate the persons wishing to apply for licenses in all regions so they need not to travel to the Headquarters of the Office of the NBTC in Bangkok. This includes the establishment of 4 more Sub-regional offices of the Office of the NBTC to complete 21 Sub-regional offices with the purposes to support the cooperation with other government agencies on monitoring content advertising on radio, television and online media as well as to receive complaints of people.

(4) To support and push forward the assistance to digital TV operators which consisted of the issues that had been considered and approved by the NBTC Meeting and the issues being in the process of presentation to the NBTC Meeting. The main issues are as follows:

- Supporting the use the money from the Fund to carry out the television channels via satellite according to the Must-carry Rule, to be completed as soon as possible.

- Exempting or reducing the annual fees from the broadcast of programs concerning the demise of His Majesty King Bhumibol Adulyadej which were considered as the informative programs that shall be claimed for exemption or reduction of annual fees.

- Extending the auction payment period in the 4th, 5th and 6th installments into several installments in order to lighten the load of digital TV operators.



- Distributing more than 4,000,000 digital TV coupons to the public, starting from January 2016 onwards. Moreover, the NBTC has improved the system for distributing digital TV coupons in order to facilitate the citizen and there will be a transparent and fair operating process according to the government's policy. In the distribution of additional digital TV coupons, there will be a link of database between the NBTC and the Department of Provincial Administration so that the people will be able to show their ID cards for redeeming the Set-Top-Box or receiving discount on buying digital television set.

- Accelerating the expansion of digital television networks, especially the low power stations to cover the area of broadcasting and provide the service with good quality of the signal under the same standard.

- Extending the revenue collection to the Fund period by considering from the results of the business operation in 2017, and as a result, the revenue collection to the Fund period will be extended to the year 2018.

- Reducing the annual fee rates which will be put into force on the revenue generated in 2016, and this will result in the decrease of a burden on annual fees in overall for more than 50 percent.

(5) Supporting the operation under the government's policy regarding digital TV in order to be in line with the government's policy**,** including accelerating the issuance of the measure for prevention and anti-piracy in the broadcasting and television services.

(6) Returning the frequency of radio broadcasting station used by the Office of the NBTC (1 Por Nor) for at least 9 stations at the beginning of the year 2017.

(7) Supporting and accelerating the village internet installation under the NBTC mission on universal service and social service obligation (USO) in marginal areas for 3,920 villages and in the additional areas assigned by the government for 15,000 villages. The operation will be done soonest and it is expected to start operating in December 2017 onwards, and the NBTC will notify the Comptroller General's Department in written requesting for the inclusion of the project to the project on moral agreement in order to confirm that the project will be done with transparency, cleanness and fairness.

(8) Organizing the mobile phone pretty numbers auction for 1,500 numbers quarterly in the year 2017 in which for the 1st quarter, more than 100 numbers of 6 digits recurring and 7 digits recurring will be auctioned within March 2017, and the NBTC will speed up the auction for the remaining numbers in the 2nd, 3rd, and 4th quarters. The revenue generated by the auction after expenditure deduction will be delivered as the state revenue.

(9) Building confidence of the citizen on the use of prompt pay system or mobile payment in which by the end of the 1st quarter of 2017, the NBTC will enforce the prepaid mobile phone SIM card registration on the users wishing to use a new number by having fingerprint scanned. For the SIM card registration, the registrant must show his identity card and the information will be examined with the database of the Department of Provincial Administration to confirm the accurate information. Moreover, to ensure the people who use the service in the prompt pay system or mobile payment that the money in their bank accounts will be secured.

There is no need to re-register for people who have already registered their SIM cards, however, if they want to be assured of the financial transactions in such system, they can also register their SIM cards in the new system. Currently, there are approximately 14 million accounts of the people who use mobile payment system, and the NBTC has cooperated with the Bank of Thailand, the Thai Bankers Association, and mobile phone service providers to specially take care of those 14 million accounts to ensure the people of the security of the system.

(10) Setting up policy on the service provision to the disabled wishing to buy mobile phone SIM card under the project "SIM cards for the Disabled", in which the disabled who buy new mobile phone SIM cards will get a 10 percent discount of service charge. For the disabled who use old SIM cards, they can present the SIM cards to the service providers for identifying themselves and get a 10 percent discount of service charge as well. It is expected that the SIM cards for the disabled will be available for service provision within March 2017.

(11) Accelerating the operation on organizing communications lines, in cooperation with telecommunications operators, the Metropolitan Electricity Authority (MEA) and Provincial Electricity Authority (PEA) in order to improve the scenery of the city to be more beautiful as well as ensure safety of life and property of the citizen.

(12) Accelerating the operation regarding the revenue generated from the mobile phone service provision in the frequency band of 1800 MHz and 900 MHz during the remedy period in order to reach a settlement by the 1st quarter of 2017, and the NBTC will deliver the revenue generated from the service during this period as state revenue.

(13) Protecting consumers in broadcasting, television and telecommunications services which is considered as a crucial mission to be done in top priority whether consumer protection in telecommunications service such as setting telecommunication service rates, follow-up and monitoring quality of signal of the service provision, handling the consumers' complaints, or consumer protection in broadcasting and television services such as regulating the exaggerated advertisement, illegal advertisement, etc. The operation of the Office of the NBTC must be done in a transparent and fair manner for the utmost benefit of the public.

According to the above policies and the action plans, the NBTC Meeting had approved the expenditure budget plan under the Strategic Plan of the Office of the NBTC in the year 2017 as follows:

Items		Amount (million baht)
1	Essential expense (minimum)	1,996.206
2	Expense commitment over the previous year	641.853
3	Budget total (1 + 2)	2,638.059
4	Expenditure budget for new plans/projects	1,972.759
5	Central budget in case of emergencies and necessities	50.000
6	Expenditure budget total for the NBTC and the Office's mission (3 + 4 + 5)	4,660.818
7	Project on the construction of new building of the Office of the NBTC	314.485
8	Contribution to the Fund	510.000
Total		**5,485.303**





1

The NBTC and the Office of the NBTC

The NBTC

The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) which has become effective since 20 December 2010 onwards prescribed that there shall be the National Broadcasting and Telecommunications Commission (NBTC) to be responsible for assigning the frequencies and regulating the broadcasting and telecommunications business with regard to utmost public benefit at national and local levels in education, culture, state security and other public interests as well as free and fair competition. This includes promoting the participation of the public in the public media operation.

On 7 October 2011, the Royal Proclamation appointed the National Broadcasting and Telecommunications Commission, under Section 17 of the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), comprising 11 persons as follows:

1. Air Chief Marshal Thares Punsri	Chairman
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 Silphipat	Commissioner
8. Mr. Thawatchai Jittrapanun	Commissioner
9. Ms. Supinya Klangnarong	Commissioner
10. Mr. Prawit Leesathapornvongsa	Commissioner
11. General Sukit Khamasunthorn	Commissioner

* Resigned from the post since 8 September 2015
** Vacated from the post due to having attained the age of 70 years on 15 August 2016

The NBTC has commenced on their duties since 2011 onwards. However, according to the Act, Section 35 and 38 together with Section 37 and 40, prescribing that the NBTC shall appoint the Broadcasting Commission (BC) and the Telecommunications Commission (TC) to have the power to act on behalf of the NBTC as follows:

Power and Duties of the NBTC

According to Section 27 of the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), the NBTC shall have the power and duties as follows:

1. To formulate a Frequency Management Master Plan, Table of Frequency Allocations, Broadcasting Master Plan, Telecommunications Master Plan, Frequency Plan, and Telecommunications Numbering Plan

2. To assign radio frequencies for the undertaking of radio broadcasting, television broadcasting, radiocommunications, and telecommunications services

3. To prescribe characteristics and categories of radio broadcasting, television broadcasting, and telecommunications services

4. To license and regulate the use of radio frequencies and radiocommunications equipments in the undertaking of radio broadcasting, television broadcasting and telecommunications services, or radiocommunications service; and prescribe licensing criteria and procedures, conditions, or licensing fees

5. To prescribe criteria for efficient use of radio frequency without causing interference to the same type of business and other type of business

6. To license and regulate the operations of radio broadcasting, television broadcasting and telecommunications services to allow service users to have choices of services with quality, efficiency, timeliness, reliability and fairness; and 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 interconnection, and criteria and procedures for setting access charges or interconnection charges to be applied to the undertaking of radio broadcasting, television broadcasting and telecommunications services, both for the same type of business and other type of business, which shall be fair to service users, service providers and investors, or between the telecommunications service providers with due regard to public interest

9. To set tariff structure and price structure for radio broadcasting, television broadcasting and telecommunications services which shall be fair to service users and service providers with due regard to public interest

10. To set standards and required technical specifications for radio broadcasting, television broadcasting, telecommunications and radiocommunications services

11. To prescribe measure for the prevention of anti-competitive conduct or unfair competition in radio broadcasting, 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 people from being exploited by the operators; protect individual right of privacy and freedom to communicate by means of telecommunications; promote right, freedom and equality of the people in the access to, and use of frequencies in the sound broadcasting, television 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 frequencies interference

16. To monitor and provide advice on the undertaking of radio broadcasting, television broadcasting and telecommunications services

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

18. To promote a formation of licensees, broadcasters, and mass media professionals in the radio and television businesses into diverse forms of organizations which will have the mandate to set forth ethical standards and self-regulation pertaining to the occupation or profession under the ethical standards

19. To issue rules 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, including the financing of 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 broadcasting, 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, sound broadcasting, television broadcasting, and telecommunications services

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

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

Apart from the power and duties under the Act, the NBTC shall have power and duties according to other laws which are the Telecommunication Business Act (2001) and the Telecommunication Business Act No.2 (2006), the Broadcasting Business Act (2008), the Radiocommunications Act (1943) and its addition, and other relevant laws.



The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) Section 35 and 38 prescribed that the NBTC appoints the Broadcasting Commission (BC) and the Telecommunications Commission (TC) to have the power to act on behalf of the NBTC in accordance with Section 37 and 40 of the Act.

Power and Duties of the BC

1. To license and regulate the use of radio frequencies and radiocommunications equipments in the undertaking of radio broadcasting, television broadcasting; and prescribe licensing criteria and procedures, conditions, or licensing fees

2. To license and regulate the operations of radio broadcasting, television broadcasting to allow service users to have choices of services with quality, efficiency, timeliness, reliability and fairness; and prescribe licensing criteria and procedures, conditions, or licensing fees

3. To prescribe criteria and procedures for interconnection, and criteria and procedures for setting access charges or interconnection charges to be applied to the undertaking of radio broadcasting, television, both for the same type of business and other type of business, which shall be fair to service users, service providers and investors, or between the service providers with due regard to public interest

4. To set tariff structure and price structure for radio broadcasting, television broadcasting which shall be fair to service users and service providers with due regard to public interest

5. To set standards and required technical specifications for radio broadcasting, television broadcasting services

6. To prescribe measure for the prevention of anti-competitive conduct or unfair competition in radio broadcasting, television broadcasting services

7. To protect right and liberty of the people from being exploited by the operators; protect individual right of privacy and freedom to communicate by means of telecommunications; promote right, freedom and equality of the people in the access to, and use of frequencies in the radio broadcasting, television broadcasting services

8. To monitor and provide advice on the undertaking of radio broadcasting, television broadcasting services

9. To promote a formation of licensees, broadcasters, and mass media professionals in the radio and television businesses into diverse forms of organizations which will have the mandate to set forth ethical standards and self-regulation pertaining to the occupation or profession under the ethical standards

Power and Duties of the TC

1. To license and regulate the use of radio frequencies and radiocommunications equipment in the undertaking of telecommunications services, or radiocommunications service; and prescribe licensing criteria and procedures, conditions, or licensing fees

2. To license and regulate the operations of telecommunications services to allow service users to have choices of 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 prescribe licensing criteria and procedures, conditions, or licensing fees

4. To prescribe criteria and procedures for interconnection, and criteria and procedures for setting access charges or interconnection charges to be applied to the undertaking of telecommunications services, both for the same type of business and other type of business, which shall be fair to service users, service providers and investors, or between the telecommunications service providers with due regard to public interest

5. To set tariff structure and price structure for telecommunications services which shall be fair to service users and service providers with due regard to public interest

6. To set standards and required 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 provisions of telecommunications services universally and equally

9. To protect right and liberty of the people from being exploited by the operators; protect individual right of privacy and freedom to communicate by means of telecommunications; promote right, freedom and equality of the people in the access to, and use of frequencies in the telecommunications services

10. To monitor and provide advice on the undertaking of telecommunications services

The Office of the NBTC and its Power

The Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) Chapter 5 Section 56 and 60 Paragraph one prescribed that there shall be an Office of the National Broadcasting and Telecommunications Commission, called in short "Office of the NBTC" which 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 law and is under the supervision of a chairperson. The affairs of the Office of the NBTC shall not be subject to the law on labor protection, the law on labor relations, the law on social security and the law on workers' compensation. The Office of the NBTC shall have a Secretary-General of the NBTC who shall be responsible for the work performance of the Office and directly answerable to the Chairperson and shall be the superior of officials and employees of the Office.

Power and Duties of the Office of the NBTC

The Office of the NBTC shall have duties and powers according to Section 57 of the Act on the Organization to Assign the Frequency 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 for endorsement. 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 the Fund Management Committee

(7) Perform other acts as entrusted by the NBTC, BC, and TC

The Office of the NBTC's revenues, according to Section 65, shall be derived from the followings:

(1) Spectrum license fees and business license fees under Section 42 paragraph two and Section 45 paragraph three of the Act on the Organization to Assign the Frequency B.E. 2553 (2010)

(2) Revenues or benefits accrued from the conduct of duties of 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 of the NBTC

(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 for Education Fund under the law on national education shall be remitted to the state treasury. In the case where the Office's revenues are not sufficient for efficient conduct of the Office, including necessary burden costs, and other sources are not available, the government shall allocate the national budget to the Office as necessary.

The Office of the NBTC has established the Broadcasting, and Telecommunications Research and Development Fund for the Public Interest under Section 52 of the Act on the Organization to Assign the Frequency B.E. 2553 (2010) with the following objectives:

(1) To provide universal services on radio broadcasting, television broadcasting and telecommunication, as well as promote community services and support community service operators under Section 51

(2) To promote and support communication resources development, research and development in the broadcasting and telecommunications sector, as well as to increase people's capabilities in keeping pace with the media's technology in the aspect of spectrum utilization, information technology, facilities for the disabled, elderly, or underprivileged as well as telecommunications industries and related industries

(3) To promote and support human resource development in the broadcasting and telecommunications sector, information technology, as well as for the implementation of the organizations which is responsible for setting ethical standards of the occupations or professions under the law on broadcasting and television business

(4) To support, promote and protect the broadcasting, television and telecommunication services consumers

(5) To support of the implementation under the Act on Safe and Creative Media Development Fund by allocating money to the Safe and Creative Media Development Fund

Vision

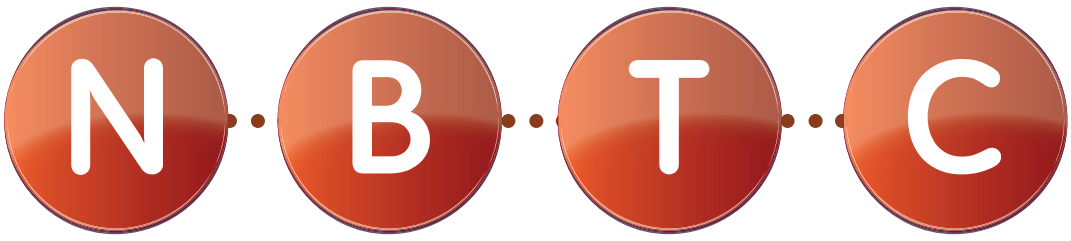
"The Office of the NBTC is a leading enterprise in the ASEAN of regulating and developing communications business for national sustainable development"

Mission

"The Office of the NBTC shall support the NBTC in spectrum management, licensing and regulating the broadcasting and telecommunications business operation efficiently and transparent and be recognized in the ASEAN level"

Core Value

To achieve the above vision effectively, the Office of the NBTC has created its corporate culture which is conducive to the operation of the Office by setting up the core values that hold those involved in the operation of the Office of the NBTC to be used as guidelines for jointly working constructively for the successful outcome of the organization. The Office of the NBTC has also promoted the corporate culture on "fast, accurate, teamwork, and having good governance for the achievement the vision of the Office of the NBTC."



Strategic Issues of the Office of the NBTC

The Office of the NBTC has set up 4 strategic issues as follows:

Strategy 1 : To Strengthen Administration in Line with Good Corporate Governance

Strategy 2 : To Manage Spectrum Allocation Efficiently, Consumer Protection, Create Equality in Communication infrastructure Access and Digital Opportunity

Strategy 3 : To Develop Competition, Fairness and Efficiency in Communication Resource Management toward Thailand's Digital Community

Strategy 4 : To Support and Promote Innovation and Networking

Goals

1. The Office of the NBTC is the high performance organization (HPO), with good corporate governance, who achieved successful operation.

2. Clients of the Office of the NBTC are satisfied with the services provided by the Office of the NBTC

3. Operational processes are efficient at the international level

4. Management factors are available

5. Communications services generate utmost social benefit and equality for the people and the public

6. Clients are satisfied with consumer's basic rights protection provided by the Office of the NBTC

7. National benefits in digital economy

8. Users of communications services have increased

9. Society and networks have confidence in the operation of the Office of the NBTC

10. Service users have provided their cooperation to support in the operation of the NBTC

The High-Level Executives of the Office of the NBTC



Mr.Takorn Tantasith
Secretary-General of the NBTC

Mr.Trirath Viriyasirikul
Deputy Secretary-General
Strategic and Internal Affairs

Air Vice Marshal Thanaphant Raicharoen
Deputy Secretary-General
Spectrum Management and Regional Affairs

Mr.Korkij Danchaivichit
Deputy Secretary-General
Telecommunications Affairs



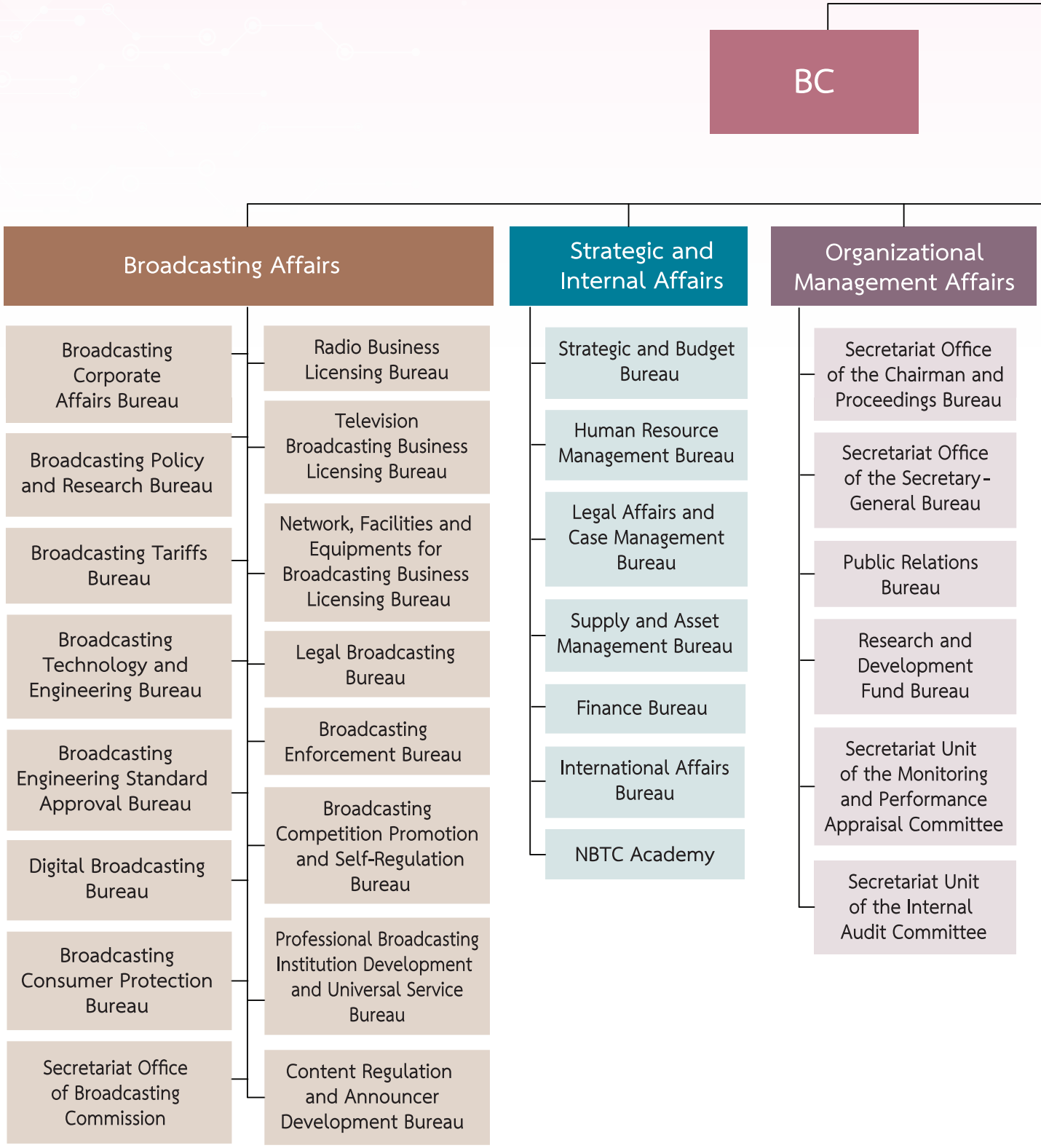
Mr.Ongard Ruangroongsom
Principal Expert

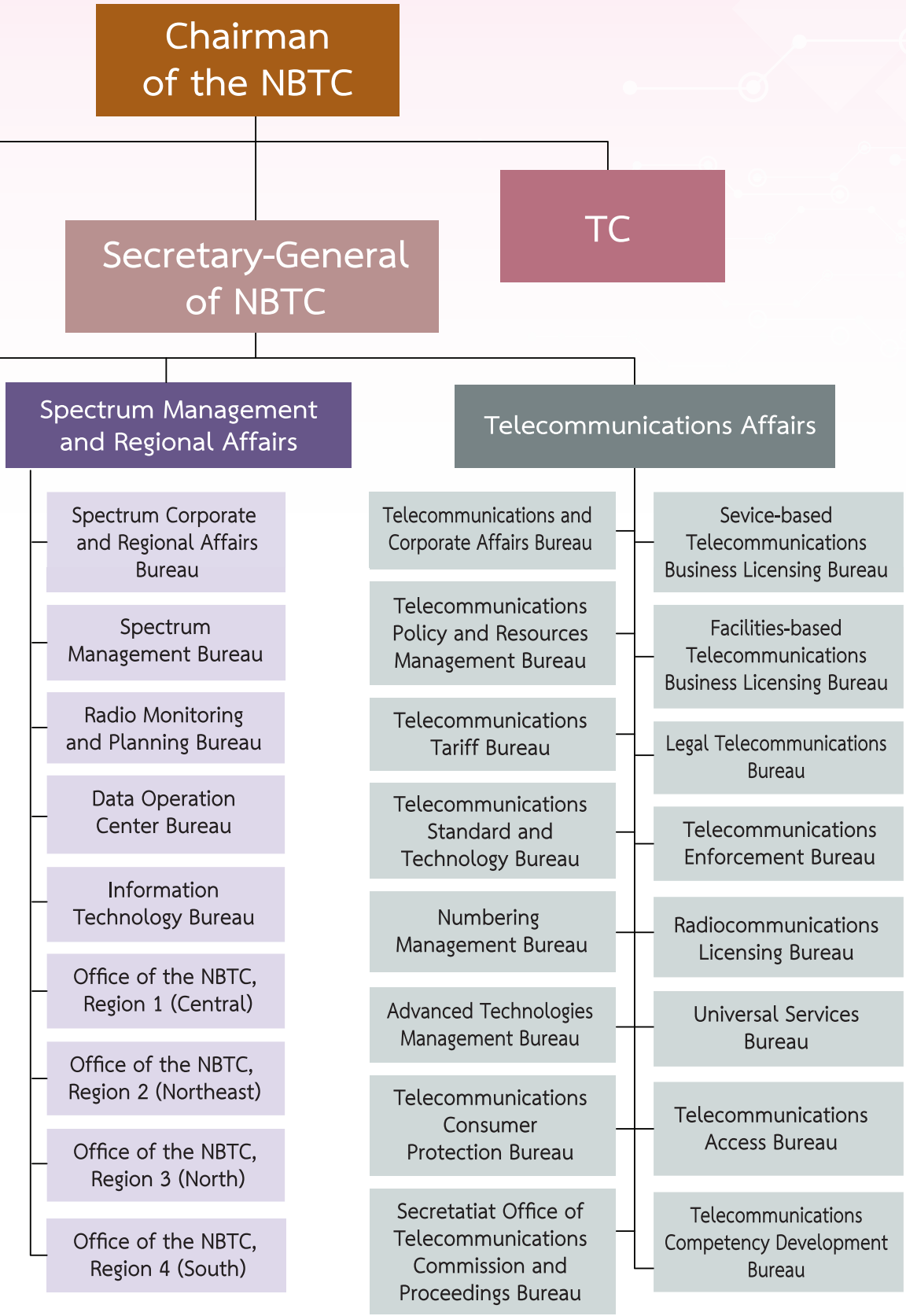
Mr.Pakpien Soontornsid
Principal Expert

Mr.Pitjapol Jantanasaro
Principal Expert

Ass. Prof. Pakdee Manaves
Deputy Secretary-General
Broadcasting Affairs

Organization Structure of the Office of the NBTC




Chairman of the NBTC
TC
Secretary-General of NBTC
Spectrum Management and Regional Affairs
Spectrum Corporate and Regional Affairs Bureau
Spectrum Management Bureau
Radio Monitoring and Planning Bureau
Data Operation Center Bureau
Information Technology Bureau
Office of the NBTC, Region 1 (Central)
Office of the NBTC, Region 2 (Northeast)
Office of the NBTC, Region 3 (North)
Office of the NBTC, Region 4 (South)
Telecommunications Affairs
Telecommunications and Corporate Affairs Bureau
Telecommunications Policy and Resources Management Bureau
Telecommunications Tariff Bureau
Telecommunications Standard and Technology Bureau
Numbering Management Bureau
Advanced Technologies Management Bureau
Telecommunications Consumer Protection Bureau
Secretatiat Office of Telecommunications Commission and Proceedings Bureau
Sevice-based Telecommunications Business Licensing Bureau
Facilities-based Telecommunications Business Licensing Bureau
Legal Telecommunications Bureau
Telecommunications Enforcement Bureau
Radiocommunications Licensing Bureau
Universal Services Bureau
Telecommunications Access Bureau
Telecommunications Competency Development Bureau

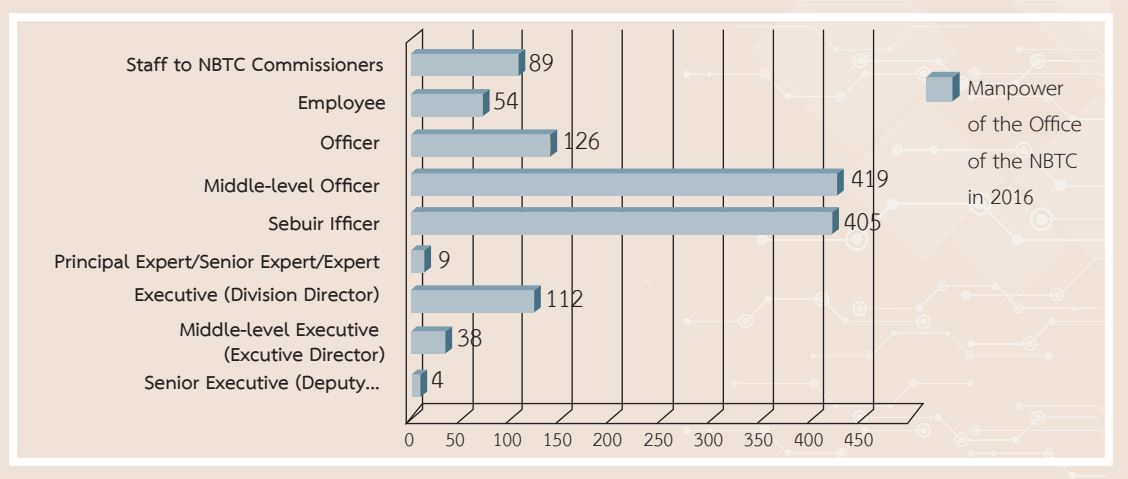
Manpower of the Office of the NBTC

In 2016, the manpower of the Office of the NBTC was 1,256 person, as shown in Table 1 and Chart 1.

Table 1: Manpower of the Office of the NBTC in 2016

Position	No. (person)
Management Position	
Senior Executive (Deputy Secretary-General)	4
Middle-level Executive (Executive Director)	38
Executive (Division Director)	112
Technical Position	
Principal Expert/Senior Expert/Expert	9
Operational Position	
Senior Officer	405
Middle-level Officer	419
Officer	126
Staff	54
Staff to NBTC Commissioners	
Advisor	25
Secretary	9
Secretary Assistant	12
Employee	37
Driver	6
Total	**1,256**

Chart 1: Manpower of the Office of the NBTC in 2016



Data as of 31 December 2016

Source : Human Resource Management Bureau, the Office of the NBTC

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Executive Director, Telecommunications Access Bureau
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Executive Director, Secretariat Office of Telecommunications Commission and Proceedings Bureau
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Executive Director, Universal Services Bureau
Mr. Wares Borvornsin
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Executive Director, Telecommunications Competency Development Bureau
Mr. Korkij Danchaivichit (Acting)
Tel: 0 2670 8888 ext. 7229




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Major Performance

Major Performance of the National Broadcasting and Telecommunications Commission

The National Broadcasting and Telecommunications Commission (NBTC) has performed its mission of regulating the broadcasting, television and telecommunications services, spectrum management which is the important and scarce resource, for the utmost benefits of the country, whether the spectrum used in the broadcasting, television, radiocommunications or telecommunications services, and strategy and organization management. The major performance is as follows:

1. Strategy and Organization Management

The NBTC and the Office of the NBTC have focused on building the organization of transparency and performing their mission by adhering to the good corporate governance. Also, the NBTC has announced the policy that all the executives shall submit a declaration listing of all owned assets to the Office of the NBTC in order to support the organizational transparency and respond to the government policies in the prevention and the anti-corruption. The NBTC also issued the NBTC's Order requiring that all the executives in the position of Deputy Secretary-General of the NBTC, Principal Expert, Executive Director, Executive Director of the Regional Office of the NBTC, Expert, Director of the Sub-regional Office of the NBTC, and Division Director of the Supply and Asset Management Bureau, submit a declaration listing of all owned assets and liabilities in the form of the Office of the National Anti-Corruption Commission (NACC) to the Office of the NBTC within 180 days starting from 1 October 2016. Although the submission of a declaration listing of all owned assets and liabilities required by the Office of NACC has not been enforced on the executives in the positions lower than the Secretary-General of the NBTC, they have provided their cooperation in submitting such assets as well.

Moreover, the Office of the NBTC has signed a Memorandum of Cooperation with the Office of NACC for being the Organization of Transparency and the good model of action.

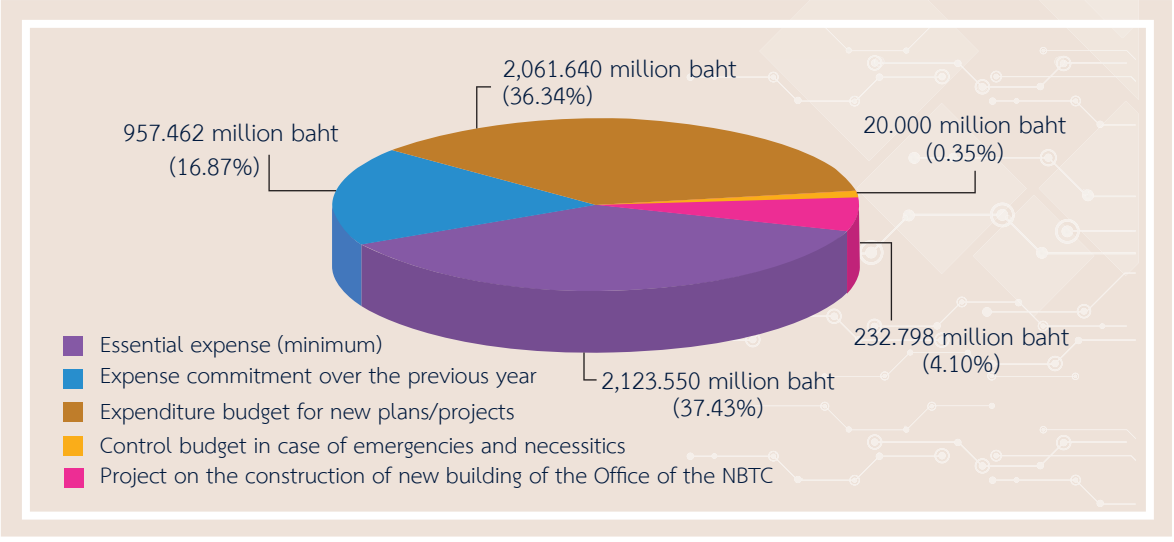
Under such policy, the NBTC had set up and managed the expenditure budget of the year 2016, which, in turn, could save the expenditure budget and be able to support the government policies. The details are as follows:

(1) Setting up the expenditure budget according to the Strategic Plan as the surplus budgeting. The revenue collection was 10,247.406 million baht while the expenditure budget was totally 5,673.849 million baht, and it was expected that the outstanding balance to be delivered as the state revenue would be 4,573.557 million baht. Details are as show in Table 2 and Chart 2.

Table 2: Expenditure budgeting under the Strategic Plan of the Office of the NBTC

Items		Amount (million baht)
1	Essential expense (minimum)	2,123.550
2	Expense commitment over the previous year	957.462
3	Budget total (1 + 2)	3,081.012
4	Expenditure budget for new plans/projects	2,061.640
5	Central budget in case of emergencies and necessities	20.000
6	Expenditure budget total for the NBTC and the Office's mission (3 + 4 + 5)	5,162.652
7	Project on the construction of new building of the Office of NBTC	232.798
8	Contribution to the Fund	278.400
Total		**5,673.849**

Chart 2: Expenditure budgeting under the Strategic Plan of the Office of the NBTC



Source: Strategic and Budget Bureau, the Office of the NBTC

(2) Having adjusted the expenditure budget plan and budget expenditure and carrying out activities under the plans/projects according to the expenditure budget plan of the year 2016 for the total amount of 4,787.543 million baht, which can be classified to the expenditure budget for the mission of NBTC and the Office of the NBTC at the amount of 4,276.345 million baht or accounting for 100 percent, the budget for the project of the construction of new building of the Office of the NBTC at the amount of 232.798 million baht or accounting for 100 percent, and the budget contributed to the Fund as prescribed by the law at the amount of 278.400 million baht or accounting for 100 percent. Details are as shown in Table 3 and Chart 3.

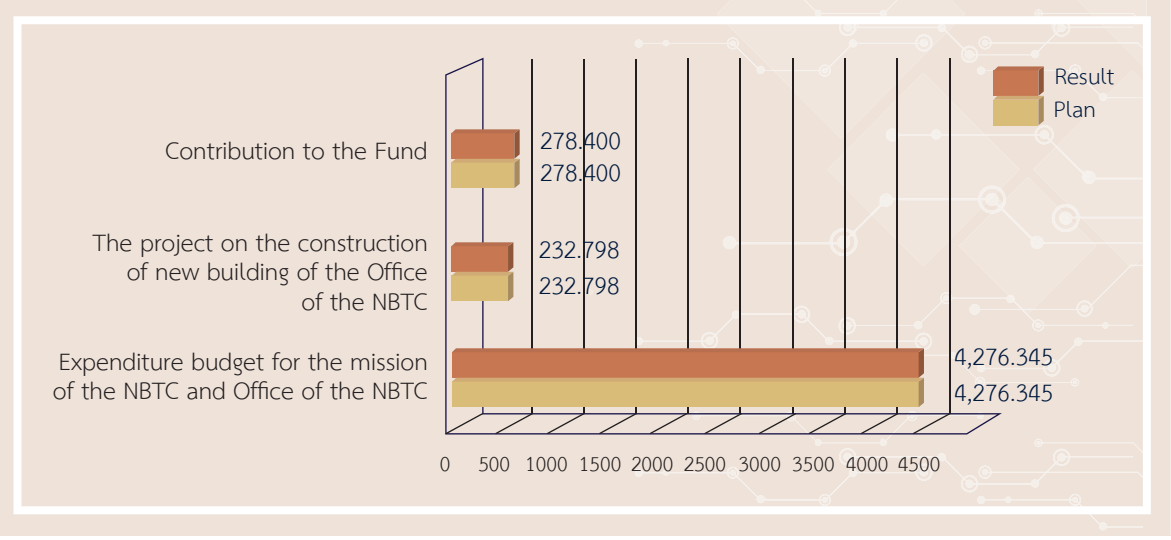
Table 3: Adjustment of the expenditure budget plan and budget expenditure in 2016

Unit : million baht

Items		Plan	Result	Percent
1	Expenditure budget for the mission of the NBTC and Office of the NBTC	4,276.345	4,276.345	100.00
2	The project on the construction of new building of the Office of the NBTC	232.798	232.798	100.00
	Total (1 + 2)	4,509.143	4,509.143	100.00
3	Contribution to the Fund	278.400	278.400	100.00
Total		**4,787.543**	**4,787.543**	**100.00**

Chart 3: Expenditure budget plan and budget expenditure in 2016

Unit : million baht



Source: Strategic and Budget Bureau, the Office of the NBTC

However, the review of the results of projects implementation by suspending or canceling unnecessary projects, made the expenditure budget reduced, and the NBTC was able to allocate budget to support the mission under the Order of the National Council for Peace and Order on measures to promote radio broadcasting, television and telecommunications businesses for the public benefits.

(3) Budget expenditure for travelling to foreign countries on official purposes, the NBTC has set up the practical guidelines in accordance with the Cabinet's resolution that the travelling shall be made only upon the mission of international organization meetings such as ITU, WTO, etc., which are necessary to attend, and it could reduce the overall budget expenditure for travelling to foreign countries on official purposes since the year 2014 to 2016. Details are shown in Table 4.

Table 4: Budget expenditure for travelling to foreign countries on official purposes

Unit : million baht

Items		2014	2015		2016	
		Amount	Amount	Decreased (%)	Amount	Decreased (%)
1	The NBTC	28.463	20.172	29.13	15.457	23.38
2	Office of the NBTC	71.994	39.410	45.26	30.379	22.92
Total		**100.456**	**59.582**	**40.69**	**45.836**	**23.07**

(4) Entertainment expense. In travelling to attend the meetings with international organization, such as ITU or WTO, it is necessary for the Office of the NBTC to hold the welcoming party or dinner for the important persons from other organizations during the meetings in order to support the operation of the NBTC. However, according to the travel made only upon the necessary mission, the expense for entertainment decreased constantly. Details are shown in Table 5.

Table 5: Entertainment expense during 2014 - 2016

Unit : million baht

Items		2014	2015		2016	
		Amount	Amount	Decreased (%)	Amount	Decreased (%)
1	The NBTC	4.652	2.703	41.89	2.314	14.39
2	Office of the NBTC	2.017	0.398	80.24	0.276	30.61
Total		**6.669**	**3.102**	**53.49**	**1.782**	**42.56**

(5) Reduction of the number and composition of the Sub-committees and Working Groups which the budget expenditure on meeting allowance decreased continuously as shown in Table 6.

Table 6: Details of the reduction of the number of Sub-committees and Working Groups during 2014 - 2016

Unit : million baht

Items	2014	2015		2016	
	Amount	Amount	Decreased (%)	Amount	Decreased (%)
Meeting allowance	51.045	38.601	24.38	34.809	9.82

(6) Procurement. In 2016, the NBTC had carried out the procurement process by applying mutatis mutandis the Regulation of the Office of the Prime Minister on Procurement B.E.2535 (1992) and its amendment to the procurement process of the NBTC. As a result, the number of procurement by special arrangement could be reduced to 13 items, only in cases of urgency and inevitability, at the amount of 37.21 million baht. Those cases were such as the project on the exhibition arrangement to disseminate knowledge on spectrum auction in the frequency bands of 1800 MHz and 900 MHz to the public, the implementation of the project to build knowledge and understanding of the public regarding the transition to digital television signal transmission via radio broadcasting stations, the publication and distribution of the Royal Guidance and Royal Speech of His Majesty King Bhumibol Adulyadej in the occasion of the New Year festival 2017, etc.

The rest procurement by special arrangement was made for the existing contractors in order to continue their service provision, or the public relations where there was only one service provider. Apart from that, all procurement process was done by the price quotation and bidding methods. In addition, measures to accelerate and follow-up the implementation and budget expenditure has been set up in order to supervise and follow-up the implementation and budget expenditure to be in line with the plans as set, resulting in effective expenditure and more revenues to be delivered to the state in the year 2016.

2. Spectrum Management

In the year 2016, the NBTC had carried out major activities concerning spectrum management as follows:

2.1 Spectrum auction for 4G service

Having organized the 2nd spectrum auction in the frequency band of 900 MHz on 27 May 2016 under the Order of the Head of National Council for Peace and Order, in which the winner was Advance Wireless Network Company Limited at the bidding price of 75,654 million baht. The revenue received from two spectrum auctions in the frequency band of 900 MHz was totally 151,952 million baht, which the NBTC had already delivered as the state revenue. Not only the spectrum auction could generate more revenues for the state to develop country for the public benefits, but also stimulate the economy, according to the government's policy, from both direct investment of the operators, who have been granted licenses to use the spectrum and operate 4G business, in network building and expansion for providing service, and indirect economic value-added creating from the use of 4G service, which help drive the national economy of billion baht during the year 2016 - 2017.

2.2 Setting policy and spectrum management plan

Having formulated the (draft) Spectrum Management Master Plan No.3 (2017) and amended the National Table of Frequency Allocation to be in accordance with the Radio Regulations. The public consultation meeting on the amendment of the National Table of Frequency Allocation and details of the spectrum usage, was also organized on 14 January 2017.

2.3 Setting up the criteria for the spectrum usage to be efficiently and without interference to each other, whether in the same service or different service.

The NBTC had set up the NBTC notifications, criteria, and amended the radio frequency plans for the efficient use of the spectrum as follows:

(1) Setting up the NBTC Notification on Criteria for the Prevention of Frequency Interference in the Aeronautical Radio Service of the radio broadcasting stations that having been assigned the spectrum, and it was published in the Royal Gazette on 26 February 2016.

(2) Having formulated the NBTC Notification on Radio Frequency Plan for Land Mobile Service and Fixed Service in the Frequency Band of 137-174 MHz, which was published in the Royal Gazette on 30 March 2016.

(3) Having formulated the NBTC Notification on Criteria for the Improvement of Spectrum Use of Land Mobile Service and Fixed Service in the Frequency Band of 137-174 MHz, which was published in the Royal Gazette on 30 March 2016.

(4) Having formulated the (draft) NBTC Notification on Criteria for Spectrum Sharing between Fixed Satellite Service and Fixed Service, Fixed Satellite Service and Mobile Service, and the Notification was published for gathering opinion and comments from the stakeholders and the public during 1-31 August 2016.

(5) Having formulated the (draft) NBTC Notification on Criteria for the Spectrum Use to Support the Mission of Prevention and Disaster Relief and in case of Emergencies and Disasters, and the Notification was published for gathering opinion and comments from the stakeholders and the public during 16 September – 17 October 2016.

(6) Having formulated the (draft) NBTC Notification on Radio Broadcasting Frequency Plan in the FM system and the (draft) NBTC Notification on Technical Standard for Radio Broadcasting Transmitters in the FM system, and the Notification will be published for gathering opinion and comments from the stakeholders and the public during 4 January – 3 February 2017.

(7) Having arranged the practices for the use of communication networks in case of emergencies or disasters in the area of responsibility of the Office of the NBTC Regions and the Office of the NBTC Sub-regions for people and the agencies concerned. In 2016, the practices were arranged for totally 12 times.

2.4 Coordination concerning Spectrum Management both in national and international levels and problems solving on frequency interference though meetings in governmental agencies level and correspondence such as

(1) The 29th Meeting of Joint Technical Committee on Coordination and Assignment of Frequencies along the bordering area of Thailand-Malaysia (JTC-29) held on 4 March 2016, which the NBTC had prepared 11 (draft) documents of Thailand's position

(2) The Preparation Meeting for the 30th Meeting of Joint Technical Committee on Coordination and Assignment of Frequencies along the bordering area of Thailand-Malaysia (JTC-30) held in the form of the 2nd Meeting of the Joint Technical Committee on Coordination and Assignment of Frequencies along the Thailand and neighbouring countries' common border, on 11 October 2016. The meeting had approved the preparation of Thailand's position in 15 issues.

(3) The Asia - Pacific Telecommunity Conference Preparatory Group for WRC-19 (APG 19-1) during 26-28 July 2016 in Chengdu, People's Republic of China, in which the NBTC had already prepared a proposal of Thailand on APG Structure and Work Plan for the Preparation of WRC-19 to the APG 19-1.

(4) The Meeting of Frequency Coordination for Satellite Service between the Thai telecommunications agencies and the telecommunications agencies of Turkey, in which the meeting had reached the technical agreement on the co-used of satellite frequency.

(5) The coordination with regulators and communication satellite operators that have their service area covered Thailand through correspondence for totally 42 issues. The coordination also made on the 23 issues that had been opposed via the Radiocommunications Bureau (BR IFIC) for the satellite communications service. There are 23 satellites through the Office of Radio Communications (BR IFIC) for satellite communications.

3. Regulation of Broadcasting and Television Services

In 2016, the NBTC had regulated the broadcasting and television services as follows:

3.1 Following-up and regulating the broadcasting or television business licensees for the provision of subscription television network service to provide general television service (digital terrestrial television service), both in categories of public service and commercial services, in the service order No.1 - 36, respectively in order to support the public's viewing of digital television on all platforms.

3.2 Regulating the network installation of radiocommunications stations for the digital television switch over to cover 95.1 percent of area across the country, which has been as set in the plan for network expansion.

3.3 Supporting the public in the transition to the digital terrestrial television viewing by having distributed 13.571 million digital television coupons in phase 1 to the people for redeeming or buying Set-Top-Box or integrated Digital Television (iDTV) and having continuously publicized information on the viewing of digital terrestrial television to the public.

3.4 Having set up the measure for promoting the radio and television broadcasting and telecommunications business for public benefits and **proposing its recommendation to the National Council for Peace and Order to enforce the measure under Section 44** in order to build the confidence of operators, both public agencies and private operators, promote the efficiency of the broadcasting, television and telecommunications businesses, and create the stability of the economy system. **The Head of the National Council for Peace and Order thus has an Order No.76/2016 dated 20 December 2016 on the measure for promoting the radio and television broadcasting and telecommunications business for public benefits** in which the main content consists of:

- Extending payment period for spectrum auction license fees, which was divided into 4 installments, a year for an installment, and the licensees had already paid for 3 installments, in the 4th installment by extending period for payment submission into 2 installments with 1.5 percent of interest per year. For the excess of the minimum fee, the payment shall be made for 6 installments which 3 installments have already been paid; therefore the rest 3 installments payment shall be extended to 6 installments over a period of 6 years with 1.5 percent of interest per year.

- Having arranged the financial support from the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit on the television signal transmission of general television service via satellite for 3 years.

3.5 Setting up a measure to reduce the annuity to be delivered to the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit so that the licensees are able to have some type of expenses deducted before submitting the annuity to the Fund.

3.6 Adjusting the annual business license fee rate so that the broadcasting and television business license fees be appropriate and in line with the current economic situation and the regulation of the broadcasting and television services and shall not be a burden to operators or users.

3.7 Enforcing the law on broadcasting and television business licensees who break the rules and regulations concerning the business operation and have an impact on state security, by having suspended and withdrawn the license to operate the DMC television station of Dhamma Research for Environment Foundation and all radio broadcasting stations involved.

3.8 Having carried out activities for consumer protection in broadcasting and television as services as follows:

- Having established the center for monitoring illegal content broadcasting in radio, television and online media to monitor the content that may harm consumers, and regulating the programs containing inappropriate content, in collaboration with the Food and Drug Administration (FDA) and the Royal Thai Police for consumer protection by following-up and monitoring the broadcasting of programs or advertisement that may exploit the consumers as well as imposing the administrative fines on TV stations that broadcasted the illegal advertisement on food and drug.

- Regulating programs broadcasting that had carried out the copyrights infringement on radio, television and online media in order to promote free and fair competition in the business operation.

- Regulating the rates of broadcasting and television service tariff to protect consumers or users so that they are able to get the fair service rates.

- Having publicized and campaigned to build knowledge and understanding of the public including established cooperation with agencies concerned for protecting consumers and supporting the transition to digital terrestrial television viewing continuously.

4. Regulation of Telecommunications Services

The major performance in telecommunications services in 2016 is as follows:

4.1 Having organized the auction of mobile phone pretty numbers on 27 November 2016 which generated the revenues of 57,968,888 baht, and after deduction the revenues will be delivered as the state revenues. The auction was very successful, as it was the 1st auction in Asian countries and the 3rd auction in the world, and become a good model for other countries, such as Japan, which the government is called by the media to arrange the same auction of mobile phone pretty numbers as Thailand.

4.2 Having signed a memorandum of technical cooperation with the Bank of Thailand (BOT) to study guidelines for regulating mobile payment service as nowadays the provision of telecommunications services and financial services have integrated into one service, resulting in an instant increase of financial transaction on mobile phone including e-Wallet spending apart from cash and credit cards.

4.3 Regulating the rates and quality of mobile phone service to ensure that the people can use the service with good quality at cheaper price by setting the mobile phone service rates in the frequency band of 2.1 GHz that the rate of voice service must not exceed 0.82 baht per minute, the internet service rate must not exceed 0.28 baht per megabyte, SMS service must not exceed 1.33 baht per message, and MMS service must not exceed 3.32 baht per message. For the mobile phone service rates in the frequency band of 1800 MHz and 900 MHz, the NBTC has regulated that the mobile phone operators must strictly comply with the measure for society and consumer protection as prescribed in the conditions attached to the licenses, and the service rates must be charged based on actual usage in second for every program of sales promotion. Also, the service rates must be lower than the service rate available in the frequency band of 2.1 GHz which means the voice service must be less than 0.69 baht per minute, the internet service must be less than 0.26 baht per megabyte, SMS service must be less than 1.15 baht per message, and MMS service must be less than 3.11 baht per message

4.4 Having regulated, suspended, and restrained the dissemination of inappropriate information by requesting all internet service providers to strictly disseminate information in accordance with the government's guidelines and suspend the dissemination of inappropriate information through websites or online media as well as follow-up and monitor such information, and if the dissemination of inappropriate information has been found, immediate suspension or restraint shall be applied

4.5 Installation of communication lines underground, the NBTC has signed a memorandum of technical cooperation with the Metropolitan Electricity Authority (MEA), Bangkok Metropolitan Administration, Royal Thai Police, and TOT Public Company Limited to carry out the project of the replacement of the overhead line by the underground cable system in order to support Bangkok to become the Capital of ASEAN, by having coordinated with the authorities who provide conduit services to find a solution of laying communications lines underground line in areas of Bangkok, Chiangmai and Phuket as they are big cities with a number of population and a major tourist attraction. In the past operation, the telecommunication line has been installed underground in the area of Ladprao intersection to Victory Monument, a major business district of Bangkok, to support a variety of service provision such as telephone lines, fiber optic cable, and improve the scenery of the city to be more beautiful as well as ensure safety of life and property of the citizen.

4.6 Taking a field operation to monitor the mobile phone signal and Wi-Fi signal, the organization of communication lines, and the enhancement of capacity to support the use of mobile phones of the people who came to pay their respects to the body of the late King Bhumibol Adulyadej. The NBTC have cooperated with Bangkok Metropolitan Administration and all mobile phone service providers to have the communications lines organized in the areas of the Royal Plaza and the Grand Palace. These included setting the points for installing small cells in the location that do not obstruct the way. In the future, the NBTC will coordinate with Bangkok Metropolitan Administration to make the plan for organizing the communication lines in these areas to be in order and safe for the other royal ceremonies. Moreover, the NBTC had ordered all mobile phone service providers to increase the capacity of mobile signal to support the maximum use of mobile phones of the 250,000 people who came to pay their respects to the body of the late King Bhumibol Adulyadej. Also, the NBTC had checked the equipment and lines of the base stations of mobile phone service providers consisted of Advance Info Service Company Limited (AIS), Total Access Communication Company Limited (DTAC), True Corporation Company Limited (TRUE), CAT Telecom Public Company Limited (CAT), and TOT Public Company Limited (TOT), the location of temporary stations in the area of Royal Plaza, and conducted the speed test of internet provided by AIS, DTAC and TRUE which was found that the internet speed had met the requirement of the standards set by the NBTC. Some staff were assigned to be on duty to monitor the quality of signal to be available for service provision at all times. In addition, the NBTC, in cooperation with those five mobile phone operators, had distributed 20,000 cards of the 50 baht-calling card to people who came to pay their respects to the body of the late King Bhumibol Adulyadej for making the royal merit.

4.7 Having protected consumers in telecommunications services as follows:

- Receiving complaints through Call Center 1200 and the NBTC 1200 application installing on mobile phones for receiving complaints regarding quality of mobile signal service provision in case of dropped line, in order to solve the problem of consumers or lighten the suffering caused by the service use.

- Regulating quality of services by having monitored and measured the quality of mobile phone signals of the service providers in the frequency band of 2.1 GHz, having the Drive Test randomly and collecting information of mobile phone signals in different areas throughout the country together with the Walk Test operation to speed up the problem solving for the people.

- Conducting campaigns to raise public awareness about the installation of mobile phone base stations nationwide, to enhance an accurate understanding on the impact of electromagnetic field emission from mobile phone base stations as well as organizing public relations in various areas.

- Resolving the consumers' problems such as internet leak, solving SMS spam by dialing *137 to cancel the service, having established a channel for checking the mobile service usage by dialing *165 free of charge, solving the problems of bill shock, etc.

- Having suspended the import of mobile phones such as Samsung Galaxy Note7 and LAVA Iris 600, Iris 700 and Iris 708 to sell in Thailand for the users' safety by notifying the companies who applied for type approval and standard certification of telecommunication devices and equipment to suspend the import and distribution of such mobile phones, as well as requested the cooperation from the Civil Aviation Authority of Thailand to publicize the practical guideline of carrying mobile phones of Samsung Galaxy Note7 and LAVA Iris 600, Iris 700 and Iris 708 s on board for the safety of the people.

- Setting up a preventive guideline in playing the "Pokemon Go" game, such as alerting the user in case that playing the game may generate more additional costs, restricting the game playing areas in dangerous areas, such as railroadside, riverside, etc., religious places and historic sites, official places, and private areas, etc. Moreover, the mobile phone operators were requested to make a manual guide to play the game and take care of consumers for the costs arising from buying items for playing the game as well as making the consumers understood to prevent the bill shock.

- Having cooperated with the Office of Insurance Commission (OIC) on consumer protection so that the consumers can use insurance services knowingly. The insurance services are such as selling insurance through mobile phone, online insurance sale, etc. The cooperation also includes solving the complaints on insurance filing by the users who got damage or suffer from being induced to make insurance by the insurance representatives who used mobile phones as a channel for communication, and the trust on using insurance service through using telecommunications services to the people.

5. International Affairs

The major performance of the NBTC in international affairs in broadcasting, television and telecommunications in the year 2016 is as follows:

5.1 Having been assigned by the Thai government to host the "ITU Telecom World 2016" in cooperation with the Ministry of Digital Economy and Society and International Telecommunication Union (ITU) during 14-17 November 2016. On 14 November 2016, Her Royal Highness Princess Maha Chakri Sirindhorn had presided over the opening ceremony of "ITU Telecom World 2016" at the Royal Jubilee Ballroom, Challenger Hall, IMPACT Exhibition and Convention Center, Muang Thong Thani, which was attending by General Prayut Chan-ocha, Prime Minister, Air Chief Marshal Prajin Juntong, Deputy Prime Minister and Acting Minister of Digital Economy and Society, Air Chief Marshal Thares Punsri, Chairman of the NBTC, along with NBTC Commissioners and Secretary-General of the NBTC. The event was composed of exhibitions and booths organized by more than 25 public and private sectors and more than 30 SMEs from around the world, the Acadamic Forum under the theme "Collaborating the Digital Economy" as now it has been entering to the digital era which the digital economy is a driving force of the development in all sectors. In addition, the NBTC had held the Royal Pavilion to commemorate His Majesty the King Bhumibol Adulyadej and royal families consisting of the presentation of the royal history and the important royal duties in communications and telecommunications, the "23 Work Principles" of His Majesty the King, the royal initiative projects in communications and telecommunications, the showcasing of the image of tools used in his work, and the acceptance of royal initiatives to the development of the country.

5.2 Having signed the Memorandum of Understanding (MOU) with Ministry of Posts and Telecommunication of Lao People's Democratic Republic on 9 February 2016 with the view to building a framework of cooperation among regulators in ASEAN region in regulating telecommunications, spectrum management, handling and seeking an approach to resolve the problem of frequency interference in the area along the borders, licensing, consumer protection, exchanging of technical information and best practices, and other issues facing by several countries due to the rapid growth of technology and social media. In the MOU, the NBTC shall provide its support to Lao People's Democratic Republic in making the 2-Shae application by joining the study and exploration of the areas in order to design a registration method to store information and details of mobile phone users in the prepaid and postpaid systems through smartphones, computers, or any other systems, and developing the registration system for 2-Shae application so that the mobile phone users can be assured of the registration that is convenient and fast, with data security system. In addition, the registration system will reduce a channel of illegal use of unregistered phone numbers to cause social problems, which may be harmful to the society.

5.3 Having organized the Workshop under the theme "ITU COE for Asian and the Pacific on Developing the ICT Ecosystem to Harness Internet-of-Things (IoTs)" in cooperation with the International Telecommunication Union (ITU) and Ministry of Digital Economy and Society during 13-15 December 2016 at Eastin Grand Sathorn, Bangkok. The workshop was held for the second time under the framework of the World Telecommunication Development Conference (WTDC) to enhance knowledge and understanding of technology, standards, and the use of IoTs, as well as building the framework of cooperation on regulation.

5.4 Having organized the Preparatory Meeting on Cyber Security in ASEAN countries, in cooperation with the Ministry of Internal Affairs and Communications (MIC), Japan, during 15-16 December 2016 at the St. Regis Hotel, Bangkok, to get prepared for cyber security among ASEAN countries. The meeting agendas included the exchange of information, experiences and approaches for handling the problems. The participants to the meeting consisted of representatives of telecommunications authorities from both public and private sectors in ASEAN countries, such as Cambodia, Indonesia, Malaysia, the Philippines, Vietnam, Singapore, Lao People's Democratic Republic and Myanmar.

5.5 Having signed the Memorandum of Cooperation (MoC) with Ministry of Internal Affairs and Communications (MIC), Japan, for supporting the cooperation and exchange in telecommunications and broadcasting services among each other in spectrum management, cybersecurity, such as information, critics, etc., infrastructure protection in telecommunications and broadcasting sectors, cooperation in broadcasting sector such as business matchmaking on contents, co-production, service areas sharing, cutting edge technology, etc., promoting

the exchange of information on technology innovation, telecommunications and broadcasting services and applications, promoting personnel development in telecommunications and broadcasting services, and promoting of cooperation on mobile phone communication.

5.6 Having signed the Memorandum of Understanding (MOU) with BICMA of Kingdom of Bhutan with the objectives to promote the information exchange on spectrum management, spectrum monitoring and radiocommunications licencing, regulations on telecommunications and broadcasting services, consumer protection, and dispute resolution in broadcasting and telecommunications services, promoting technical innovation in telecommunications and broadcasting services, and international cooperation, especially with the organizations under the ITU and Asia and Pacific.

5.7 Having organized the International Regulators Forum 2016 (IRF 2016) in cooperation with International Institute of Communications (IIC) which is a leading non-profit organization of the world in telecommunications, during 10-11 October 2016 at the Auditorium, Office of the NBTC. The objectives of the forum were to exchange opinion, experiences and guidelines in telecommunication regulation, approach to handle problems and obstacles of each regulator around the world.



Major Performance of the Broadcasting Commission (BC)

In 2016, the Broadcasting Commission (BC) had performed important activities as follows:

1. Having formulated the (draft) Broadcasting Master Plan No.2 (2017-2021) which focuses on the improvement of programs quality, business operation, free and fair competition, development of technology application leading to the efficient use of spectrum resource, promotion on rights and liberty, service access and utilization of people in all sectors, maintaining the good values of Thai society, and promoting peaceful coexistence. The draft Master Plan consists of 4 strategies: Spectrum Licensing, Business Licensing and Preparedness for Future Technology Development, Broadcasting and Television Services Promotion and Regulation, and Development of Management System in order to become the Efficient Regulator. The Master Plan formulation was done by engaging all stakeholders in the Focus Group meetings, which consisted of the broadcasting and television operators and professionals, professional associations, scholars, consumers' representatives, the security agencies, and government agencies in 4 regions; the academic criticism activities, workshop of the radio and television operators, and the activities for gathering opinion, comments and information to be used for drafting the new Broadcasting Master Plan. The draft Master Plan was held in 4 regions for public hearings, and had already been presented to the BC in the Meeting No. 41/2016 on 28 November 2016.

2. The broadcasting and television business licensing in 2016 the BC had carried out activities concerning the radio broadcasting service for trial operation and the broadcasting or television business operation for the non-frequency used services as follows:

(1) Radio broadcasting service in trial operation

Since 19 November 2012, the BC had issued 5,730 licenses of radio broadcasting service in trial operation, according to the NBTC Notification on Criteria for Radio Broadcasting Service in Trial Operation B.E. 2555 (2012), of which 5,414 licenses was the licenses renewal for the radio broadcasting service under the announcement.

However, the above radio stations that have been granted the license to broadcast the service for trial operation will be able to broadcast normally only when they have already complied with the conditions of the Announcement of National Council for Peace and Order No. 79/2014 regarding conditions for broadcasting service of the radio stations that have been granted the license for broadcasting service for trial operation including the Office of the NBTC's Notification on Practical Guideline for the radio broadcasting stations that have been granted the licenses for trial operation of broadcasting service under the Announcement of National Council for Peace and Order No.79/2014. The number of stations that were announced to be able to broadcast under the Announcement of the National Council for Peace and Order and the Office of the NBTC's Notification was 4,659 stations. Details are as shown in Table 7.

Table 7: Number of licensees, number of license renewal, and number of stations that can operate the broadcasting service classified by the category of radio broadcasting service for trial operation

	Category of radio broadcasting service for trial operation			
	Commercial service	Public service	Community service	Total
No. of licensees*	4,093 licenses	1,107 licenses	530 licenses	5,730 licenses
No. of licenses renewal**	3,936 licenses	1,165 licenses	313 licenses	5,414 licenses
No. of stations that can operate the broadcast services***	3,575 stations	814 stations	270 stations	4,659 stations

* Remarks: Data as of 19 November 2012 – 31 December 2016

** Remarks: Data as of 1 January – 31 December 2016

*** Remarks: Data as of 31 December 2016

Source: Radio Business Licensing Bureau, the Office of the NBTC

(2) Broadcasting or television business operation for the non-frequency subscription services

- The BC Meeting had considered and granted 1,182 licenses to the broadcasting or television business operators for non-frequency used subscription service provision according to the NBTC Notification on Licensing Criteria and Methods for Broadcasting or Television Services B.E. 2555 (2012). Currently, there are 564 broadcasting or television licensees. Details are as shown in Table 8.

Table 8: Number of broadcasting or television licensees for non-frequency used subscription service provision

Type of services	No. of Licenses granted	Cancellation of services/ Licenses expired (licenses)
Provision of broadcasting or television services (Channels)	564	618

Remarks: Total number of licensees from 17 October 2012 – 31 December 2016

Source: Radio Business Licensing Bureau, the Office of the NBTC

- For the issuance of broadcasting and television business licenses in the year 2016, according to the NBTC Notification on Licensing Criteria and Method for the Provision of Broadcasting or Television Network Services B.E. 2555 (2012) and the NBTC Notification on Licensing Criteria and Method for the Provision of Broadcasting or Television Facilities Services B.E. 2555 (2012), the NBTC had issued a license for the provision of network service and has been in the process of consideration for another license to provide service in national level; however, there is no license granted for the provision of facilities service. Summary of status of licenses for the provision of network service and the provision of facility service is shown in Table 9.

Table 9: Statistic and Result of the consideration on non-frequency used services application

Type of services	No. of applications	No.of licensees	No. of operators who cancelled licenses/Licenses expired/withdrawn	Have not yet been granted a license
Network service provision	432	416	6	10
• National level	48	39	4	5
• Regional level	60	60	0	0
• Local level	324	317	2	5
Facilities service provision	7	7	0	0
Total	**439**	**423**	**6**	**10**

Remarks: Data of network service provision starting from December 2012 to 31 December 2016, and data of facilities service provision starting from July 2013 to 31 December 2016

Source: Network, Facilities and Equipments for Broadcasting Bureau, the Office of the NBTC

3. For the transition to the digital broadcasting switch over, the NBTC had carried out major activities to ensure the efficient use of spectrum by the spirit of Section 27 (5) of the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) as follows:

3.1 Having created a guarantee for the people to receive a quality and fair television service, promoted the public to receive the general universal television service, as well as facilitated the people's access to television service by setting up the criteria and guideline for the broadcast of general television service, and regulating the service provision to be in accordance with the set criteria and guideline. In 2016, the major operation of the BC is as follows:

(1) Following-up and regulating the service provision to ensure that licensees of broadcasting or television business for the provision of network service for the subscription television service have broadcasted the general television service (digital terrestrial television service), both in the category of public service and commercial service, only in the service number 1-36 according to the channels' number, in order to support the people to view digital TV in all platforms according to the NBTC Notification on Criteria for Television Service Order Arrangement.

(2) Having formulated the Office of the NBTC's Notification on Guideline for the Broadcast of General Television Service, which has been published in the Royal Gazzette No.133, Special 178 D, on 16 August 2016 to enforce on the television operators. The objective of the Notification is to be a guideline for the broadcast of general television service, which the broadcast of the general television service must be authorized by the NBTC, and the service must be provided continuously without changes, reproduction, modification of program schedule, program content, or resolution standards, and the operators must comply with the relevant criteria. Moreover, for broadcasting the general television service, the service providers of general television service and the television network service providers who have provided the service to licensees of the non-frequency used television service must broadcast the service with the quality of viewing that is not higher than the quality of viewing of digital terrestrial television, and the resolution standard of the broadcasting is not higher than the resolution standards of the broadcasting of digital terrestrial television according to the NBTC Notification on Technical Standard for the Provision of Digital Terrestrial Television Service for the consumers benefits in viewing the general television service. However, if there is any technical limitation which make the service providers been unable to broadcast the general television service with high definition (HD) standard as prescribed in the license to use the spectrum for the provision of digital terrestrial television service according to the NBTC Notification on Criteria, Method, and Condition of the Spectrum Auction for the Provision of Digital Television Service in category of Commercial Service in National Level B.E. 2556 (2013) which prescribed that the service providers of general television service or television network service providers who have provided the service to licensees of the non-frequency used television service are able to broadcast the service with the standard definition (SD), as well as the broadcast of the general television service must not be discriminatory to any television service provider or having an act of restriction, reduction, restriction or prevention of fair competition in broadcasting or television services

3.2 Having regulated the expansion of digital terrestrial television network and technical operation for the viewing of digital terrestrial television as follows:

(1) Following-up and regulating the expansion of digital terrestrial television network, as shown in Table 10.

Table 10: Status of the radiocommunications station installation

Network service providers	Status of the radiocommunications station installation
Royal Thai Army	The installation of radiocommunications stations in the 1st, 2nd, and 3rd year has been completed as set in the plan for television network expansion, and 84 stations are available for service. Those stations consist of 39 high power stations and 45 low power stations. The operating status of 2 networks is the same.
MCOT Public Company Limited	The installation of radiocommunications stations in the 1st, 2nd, and 3rd year has been completed as set in the plan for television network expansion, and 84 stations are available for service. Those stations consist of 39 high power stations and 45 low power stations.
Thai Public Broadcasting Service (TPBS)	The installation of radiocommunications stations in the 1st, 2nd, and 3rd year has been completed as set in the plan for television network expansion, and 84 stations are available for service. Those stations consist of 39 high power stations and 45 low power stations.
The Government Public Relations Department	• The installation of radiocommunications stations has been completed, and 22 staions are available for service. Those stations consist of 21 high power stations and a low power station.
	• The installation of 40 radiocommunications stations in Phase 2 has been in process of procurement while other 59 radiocommunications stations in Phase 3 has been in the process of consideration of the authorized person

Remarks: Data as of 31 December 2016

Source: Digital Broadcasting Bureau, the Office of the NBTC

(2) Having altered the location and technical specifications of the low power stations in A2 and A3 groups of the digital terrestrial television service, and setting the timeframe for network expansion which all network service providers had an agreement on the location and technical specifications of the low power stations in A2 and A3 groups of the digital terrestrial television service, in the meeting of the working group to follow up and resolve the problems on the use of spectrum in the transition to the digital television switch over, No. 9/2016 on 29 July 2016, and the number of households which is estimated to be covered after completing the installation of 168 stations will be 95.1 percent. Details are as shown in Table 11.

Table 11: Timeframe for network expansion in the 1st – 4th year

Year	Duration	No. of stations to be installed additionally in each year	Percent of households throughout the country
1	June 2013 - June 2014	11 high power stations 1 low power station (A1)	50
2	June 2014 - June 2015	28 high power stations 7 low power stations (A1)	80
3	June 2015 - June 2016	37 low power stations (A1)	90
4	June 2016 - June 2017	34 low power stations (A2), 50 low power stations (A3)	95

Remarks: there is totally 168 stations for the provision of digital terrestrial television network service consisting of 39 high power stations, 45 low power stations (A1), 34 low power stations (A2), and 50 low power stations (A3)

Source: Digital Broadcasting Bureau, the Office of the NBTC

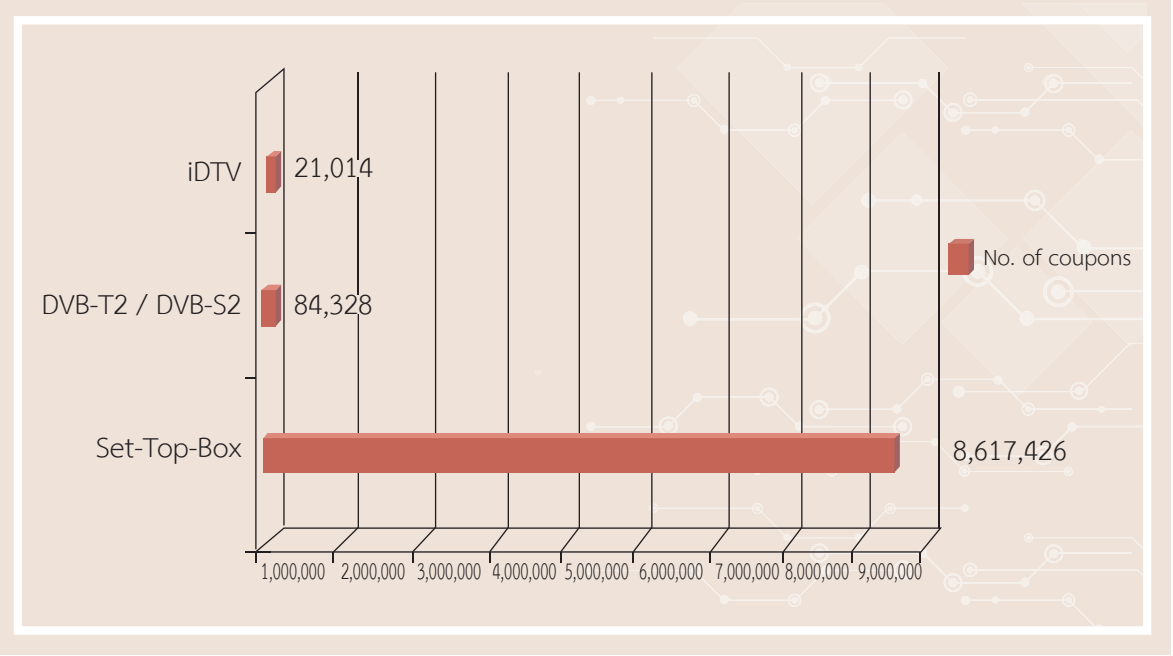
(3) Having tested antennas for receiving of digital terrestrial television signals by carrying out a project to test antennas for receiving digital terrestrial television signal in order to test the technical characteristics of the antennas available in the market, and publishing information, in collaboration with the Electrical and Electric Products Testing Center (PTEC), to build knowledge of the public as follows:

- Knowing Digital TV Antenna: Proper Use and Installation
- Knowing Master Antenna Television (MATV) for Digital TV: Choice of Equipment Use, Method, Installation, and Signal Tests

3.3 Having supported the citizen in the transition to the viewing of digital terrestrial television, which has been operating in phase 1 since the year 2014, and it is currently in the process of phase 2. Details are as follows:

Phase 1: Having distributed 13,571,296 digital TV coupons during 10 October 2014 - 21 May 2015 (7 lots) to people for redeeming the digital TV Set-Top-Box or DVB-T2 or DVB-S2, or using as a discount for buying iDTV. On 31 January 2016 which was the expiration date of the coupon redemption in the final lot (7th lot), it was found that 8,722,768 coupons were redeemed for Set-Top-Box or accounting for 64 percent of totally 13,571,296 coupons. The highest number of coupon redemption of 8,617,426 coupons or 98.79 percent was for Set-Top-Box, followed by DVB-T2 and DVB-S2 at 84,328 coupons or 0.97 percent, and iDTV at 21,014 coupons or 0.24 percent. Details are as shown in Chart 4.

Chart 4: No. of coupons redeeming classified by type of digital terrestrial television receivers



Source: Digital Broadcasting Bureau, the Office of the NBTC

Phase 2: The National Council for Peace and Order has agreed and approved in principle the distribution of 4,189,992 digital TV coupons to additional households consisting of the households having house registration and residents but no house owners for 2,074,737 households, the households having the rights to receive digital TV coupons in the 1st phase, but have not yet received the coupons (only the coupons that Thai Post Company Limited had returned to the Office of the NBTC) for 1,175,737 households, the households with temporary house registration and house owners for 532,315 households, the households having house registration and house owners after 16 September 2014 for 407,203 households, and the residences of government agencies, state enterprises or other public agencies, and public service points of government agencies, state enterprises or other public agencies. Currently, the NBTC has been in the process of surveying in additional areas in order to support the people in all areas across the country to be able to watch digital terrestrial television and to prepare for the analog radio and television signal transmission switch off. However, the operation has still been in the framework of expenditure limit and the number of households, which is not exceed 22.9 million coupons, according to the approval of the Head of National Council for Peace and Order as detailed in Table 12

Table 12: Supporting the people in the transition to the viewing of digital terrestrial television

	Details of households	Number households
1.	Households having the rights to receive digital TV coupons in the 1st phase, but have not yet received the coupons (only the coupons that Thai Post Company Limited had returned to the Office of the NBTC)	1,175,737
2.	Households having house registration and house owners after 16 September 2014	407,203
3.	Households having house registration and residents but no house owners	2,074,737
4.	Households with temporary house registration and house owners	532,315
5.	Residences of government agencies, state enterprises or other public agencies	In process of survey
6.	Public service points of government agencies, state enterprises or other public agencies	In process of survey

Remarks: Data as of 1 November 2016

Source: Digital Broadcasting Bureau, the Office of the NBTC

To support the people in the transition to the viewing of digital terrestrial television in phase 2, the NBTC shall require that the Smart Card of Identity be used and the verification shall be made via the Digital TV Set-Top-Box Management System which is connected to the civil registration database system[1] to ensure of the rights received under the project in stead of coupons. At present, the NBTC is in the process of drafting the letter to inform the rights and publicize information, method for Set-Top-Box redemption to the people.

3.4 Having carried out the measure for promoting the digital terrestrial television operators to ensure that the transition to digital terrestrial television switch over has been done completely, equally, thoroughly, and people get benefits from the access to a variety of information as follows:

(1) To support all people to access to the frequency-used television services and watch television services in general without setting condition of the service provision or the so-called "general television service", which is the basic universal and fair public service regardless of the category of services that people have made their choice to view television program, the NBTC has issued the NBTC Notification regarding criteria for the broadcast of general television service. Although the highest number of people have watched television services through satellite TV and cable TV systems but most of the watching are for terrestrial program channels whether the original and new digital channels. Therefore, the Notification will ensure that people will be able to equally access to the frequency-used television services. The service providers of general television service thus have the responsibility to interconnect with the network for television signal transmission of the systems according to the NBTC Notification. However, having considered the proportion of the advertising value between the original channels and the new digital channels from the year 2014 to 2019 it was found that although the revenue from advertising of new digital channels has increased but the revenue proportion is much lower than the original channels. To support the providers of general television service to be able to continue the operation and people are able to view the general television services both in the category of public service and commercial services, the NBTC therefore had its resolution in the NBTC Meeting No.10/2016 on 9 November 2016, to approve in principle of the support on people to receive the broadcasting and television services as proposed by the Office of the NBTC in order to ensure that people can thoroughly and equally access to the general television service via satellite system. It is currently in the process of consideration in details.

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[1] At present, the Department of Provincial Administration has verified the legal accuracy of the Memorandum of Understanding on the request for utilizing civil registration data from the Central Registration Database through computer system by means of the counter service and the agreement on the request for using programs to retrieve data from ID cards.

(2) Setting the measure for deducting the revenue to be delivered to the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit by issuing the NBTC Notification on Criteria and Method for Revenue Delivery to the Broadcasting and Telecommunications Research and Development Fund of the Broadcasting or Television Business Licensees which has been published in the Royal Gazette No.133, Special 282 D on 6 December 2016 in order to set up criteria and method for collecting the annuity to the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit (the Fund) so that the broadcasting or television business licensees can comply to it correctly. For the delivery of the annuity, the licensees who are existed on the date this Notification has been effective, must deliver the annuity of the revenue generating in the accounting period of the licensees starting from the year 2017 onwards, and the licensees who have carried out the operation for providing the general television service to people according to the NBTC Notification regarding criteria on the broadcast of general television service or as prescribed by the NBTC, are able to deduct the revenue by such operating costs before delivering the annuity to the Fund.

(3) Adjusting the rate of annual business license fees by setting up the NBTC Notification on License Fee for Broadcasting or Television Business (No.2) by improving the NBTC Notification on License Fee for Broadcasting or Television Business B.E. 2555 (2012) to be appropriate with the current economic situation and the regulation of broadcasting or television businesses and to avoid creating burden on the operators, or in other words, to reduce the burden of the operators on the payment of annual license fees and increase the opportunity of business survival. This is to solve the problem of the digital terrestrial television business operation and help supporting the broadcasting and television operators in overall. The Notification has been published in the Royal Gazette No.133, Special 271 D, on 24 November 2016 and it contains important contents as follows :

- Improving the rate of annual license fee, which prescribed in the NBTC Notification on License Fee for Broadcasting or Television Business B.E. 2555 (2012) that there are 2 levels, the 1st level is for the operators having revenue from 0 to 5 million baht and the rate is 1.5 percent and the 2nd level is for the operators having revenue exceed 5 million baht and the rate is 2 percent, to be the “5-step of progressive rate” of annual license fee according to the NBTC Notification on License Fee for Broadcasting or Television Business (No.2) starting from the operators having revenue from 0 to 5 million baht which the rate is 0.50 percent to the operators having revenue exceed 1,000 million baht which the rate is 2.00 percent. Details are as shown in Table 13.

Table 13: Rate of annual license fee according to the attachment of the NBTC Notification on License Fee for Broadcasting or Television Business (No.2)

Revenue	Progressive rate of fee (percent)
From the first amount of 0-5 million baht	0.50
More than 5 million baht but not exceed 50 million baht	0.75
More than 50 million baht but not exceed 500 million baht	1.00
More than 500 million baht but not exceed 1,000 million baht	1.75
Exceed 1,000 million baht	2.00

Source: Broadcasting Tariffs Bureau, Office of the NBTC

- Surcharge calculation according to the NBTC Notification on License Fee for Broadcasting or Television Business (No.2) which prescribed that in case the licensee fails to pay the annual license fee to the Office of the NBTC by the due date or full amount of the annual license fee, the licensee must pay the annual license fee and surcharge at the rate of 1.5 percent (was 2 percent) per month of the annual license fee which has not yet paid. A fraction of a month is counted as one month starting from the following day of the payment due date until the annual license fee has fully been paid.

(4) Activities to enhance knowledge and understanding of the public of the transition to digital switch over as well as to provide useful information on digital television viewing, which will help facilitate the transition and be beneficial to the public. In the year 2016, the BC had organized activities/projects and public relations on viewing the digital terrestrial television in various areas across the country. Also, many campaigns were conducted to raise awareness of the public on main media either offline or online media. The activities included the cooperation with various public and private agencies to enhance knowledge and understanding of people in all sectors on the digital TV such as

- The collaboration with the Office of the Vocational Education Commission to raise awareness and understanding on digital terrestrial television to the public by providing information on the demonstration, installation, transition to the digital terrestrial television viewing especially methods for watching digital TV, receiver installation, signal receipt area coverage, and distribution of coupons to people in different areas.

- Publication, dissemination of media and activities to raise awareness and understanding of the public on the transition to digital switch over by conducting the campaign "Switch over to Digital TV, watching the high definition free TV throughout Thailand" to be publicized through television media, radio media, printed media, outdoor media, billboards, LED sign post media, website media such as mthai.com, kapook.com, sanook.com, etc., news broadcasting of activities through popular TV program TV stations such as Sa Ked Khao Channel 7, News Room at Noon, Keb Tok Nation Channel, Ment and Mount GMM Channel, Sanuam Khoaw Channel 7, and other local media in Chiangmai, Ubon Ratchathani, Phitsanulok, Rayong, Prachuap Khiri Khan, Chiangrai, Surat Thani and Nakhon Si Thammarat. The activities consisted of 1) Caravans, Road Show, Car parade, Brochure distribution to people in community and market areas 2) Booth demonstration of viewing Digital TV, and 3) Local news.

- Building knowledge of the public on digital terrestrial television signal reception to enhance knowledge and understanding of local people or communities to be able to select an appropriate digital TV antenna, apply local materials to increase efficiency of the TV signal reception, and promote local people or communities to receive the universal basic television service equally. The activities were held in Songkhla, Nakhon Si Thammarat, Nakhon Ratchasima, Prachuap Khiri Khan, Chiangmai, Khon Kaen, Ubon Ratchathani, Chon Buri, Lampang and Chiangrai.

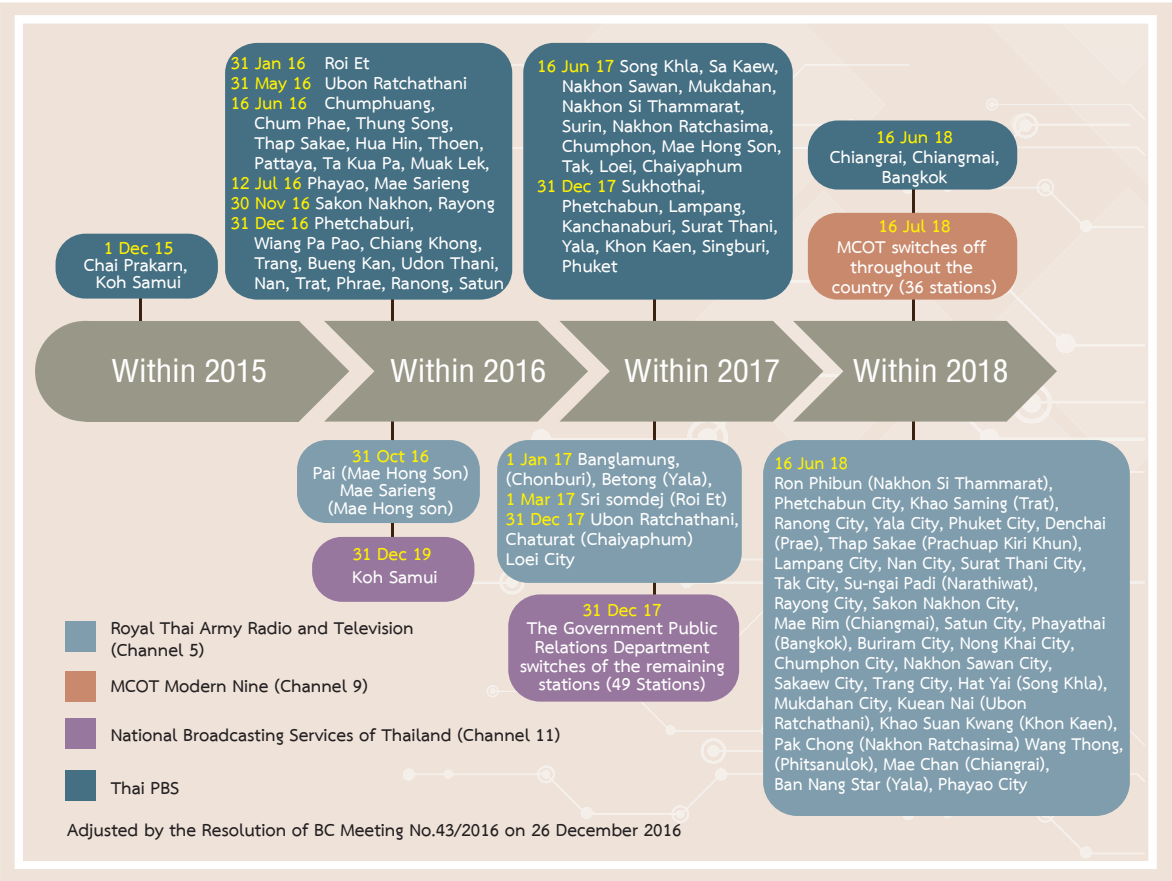
- Digital TV literacy enhancement program to promote knowledge, understanding and perception on the transition to Digital TV switch over, create a channel to disseminate knowledge to the broadcasting and television business operators and the people interested, as well as to establish a network for transferring knowledge about digital TV to the society. The activities were held in Phitsanulok, Khon Kaen, Nakhon Phanom, Chiangrai and Krabi.

- Training and development on techniques for the installation of digital TV antennas in high buildings to develop knowledge body of personnel in both theoretical and practical so that they can apply the knowledge obtained to install the equipment for digital terrestrial television signal reception in high buildings including providing assistance and support to enable the more efficient and comprehensive viewing of digital terrestrial television of people living in high buildings. The trainings were organized in Bangkok in February 2016 with 170 attendees of technicians and the system administrators working in high buildings in areas of Bangkok and its vicinities consisting of National Housing Authority, condominiums and flats juristic persons, and government agencies. In addition, the installation of digital TV antennas in the 3-story or more buildings with residents living, which had been operated during February - May 2016, was totally 375 Head End, covering 449 buildings. The total number of households that can view digital TV was 28,821 households.

• Professionals development in broadcasting and television services to disseminate information and knowledge, promote skills on the transition to digital terrestrial television, and be able to apply knowledge gained to the actual operation. Moreover, the instructors and personnel under the Office of the Vocational Education Commission who have passed the trainings are able to transfer the knowledge gained to students or general people. The activities were held in Khon Kaen, Ubon Ratchathani, Lampang, Phitsanulok, Song Khla and Ayudhaya.

3.5 Analog Switch-Off (ASO), according to the NBTC Notification on the Plan to Switch off Analog Television System has prescribed that the ASO plan shall be done during the year 2015-2020 according to the Resolution of the 10th Meeting of ASEAN Ministers Responsible for Information (AMRI) held in Laos People's Democratic Republic, the Office of the NBTC, in cooperation with Royal Thai Army, MCOT Public Company Limited, The Government Public Relations Department, and Thai PBS, had set up the ASO plan of Royal Thai Army Radio and Television (Channel 5), MCOT Modern Nine (Channel 9), National Broadcasting Services of Thailand (Channel 11), and Thai PBS, respectively, Details are as shown in the following diagram.

Analog Television Switch-off Roadmap



According to the ASO plan, the ASO throughout the country will be completed by the year 2018 (16 July 2018 approximately). For the Royal Thai Army Radio and Television Station (Channel 5), the Government Public Relations Department (Channel 11), and Thai Public Broadcasting Service (Thai PBS), they have carried out the analog switched off plan as approved by the BC as shown in Table 14.

Table 14: Analog Television Switch-off

Organizations	Operating Date	Stations	Frequency Channel
Royal Thai Army Radio and Television Station (Channel 5)	30 October 2016	Pai (Mae Hong Son)	50
		Mae Sariang (Mae Hong Son)	52
The Government Public Relations Department (Channel 11)	31 December 2016	Koh Samui	38
Thai Public Broadcasting Service (Thai PBS)	1 December 2015	Chai prakan	29
		Samui	34
	31 January 2016	Roi Et	28
	31 May 2016	Ubon Ratchathani	27
	16 June 2016	Chum Puang	34
		Chum Phae	34
		Thung Song	51
		Thap Sakae	34
		Hua Hin	27
		Thoen	28
		Pattaya	46
		Ta Kua Pa	28
		Muak Lek	34
	12 July 2016	Phayao	34
		Mae Sarieng	46
	30 November 2016	Sakon Nakhon	27
		Rayong	28
	31 December 2016	Petchburi	34
		Wiang Pa Pao	28
		Chiang Khong	29
		Trang	46
		Bueng Kan	29
		Udon Thani	28
		Nan	27
		Trat	27
		Phrae	34
		Ranong	27
		Satun	27

Remarks: Data as of 31 December 2016
Source: Digital Broadcasting Bureau, Office of the NBTC

Also, the BC Meeting No.43/2016 on 26 December 2016 had its resolution to acknowledge the ASO plan of Thailand Colour Television Channel 3 and Bangkok Broadcasting TV Channel 7 which will be done after the termination of joint venture agreement in 2020 and 2023, respectively.

3.6 The operation relating to broadcasting services by presenting the report of the sub-group meeting on the (draft) Broadcasting Development Plan and the study result of the foreign's digital broadcasting transmission to the BC Meeting No.10/2016 on 21 March 2016 which have still been in process of the revision of the (draft) Broadcasting Development Plan to cover all strategies relating to broadcasting service under the 1st Broadcasting Master Plan (2012-2016), according to the Resolution of the BC Meeting. The Office of the NBTC, in cooperation with International Telecommunication Union (ITU), has set up the Strategic Plan for the Deployment of Digital Radio Broadcasting in Thailand, and organized the Focus Group Meeting on Guidelines for the Development of Digital Broadcasting Service on 27 May 2016 in order to gather information, views and opinions of the radio broadcasting operators, manufacturers, and stakeholders. As a result, the reports on "Deployment Strategies for Digital Radio Services in Thailand", "Practical Guidelines for a Digital Radio Trial in Thailand" and "Practical Guidelines for a Digital Radio Auction in Thailand" have already prepared. The Office of the NBTC has also prepared a report of guidelines for setting up the key performance indicator (KPI) in broadcasting to measure the access and behavior of the provision of broadcasting services of Thailand, the cost-based analysis report of the deployment of digital radio transmission, which will be used as information for policy-making. This included the arrangement of trainings on digital radio broadcasting system for building knowledge and understanding of more than 400 participants, consisting of operators, scholars, and people interested, and the preparation for supporting the deployment process of digital radio transmission of Thailand.

4. Regulation of broadcasting and television services

4.1 Having regulated the live broadcasting of the 31st Olympic Games which was held in Rio de Janeiro, Federal Republic of Brazil, on 28 July 2016, by organizing a meeting to clarify and make understanding of the stakeholders of the copyright requirements of live broadcasting and details of criteria relating to the broadcast of the general television services. The meeting also discussed the issue concerning the prevention of copyright violation of the live broadcasting of the 31st Olympic Games. Moreover, the Office of the NBTC had made the letters to the Television Pool of Thailand and television operators who have been granted the rights to broadcast the 31st Olympic Games requesting for a strictly compliance with all relevant criteria in order to comply with the Resolution of the BC Meeting No.24/2016 on 25 July 2016.

4.2 Promoting and supporting personnel development in broadcasting and television services as follows:

(1) Having signed a Memorandum of Understanding (MOU) with 16 organizations on 15 September 2016 for the organization of trainings and tests for announcer's certificate in broadcasting and television services according to the NBTC Notification on Trainings and Tests for Announcer's Certificate in Broadcasting and Television Services B.E. 2556 (2013). Those organizations consist of the Government Public Relations Department, Royal Thai Army, Navy Radio Broadcast, MCOT Public Company Limited, Sukhothai Thammathirat Open University, Kasetsart University, Suan Sunandha Rajabhat University, Maejo University, Nakhon Ratchasima Rajabhat University, University of the Thai Chamber of Commerce, Dhurakij Pundit University, Bangkok Thonburi University, Saint John's University, Rajamangala University of Technology Thanyaburi, People's Radio and Television Professional Association, and the Mass Media Association Eastern Region of Thailand. In 2016, 33 training courses were conducted on a monthly basis, as set in the Action Plan, for people outside the Office of the NBTC. Details are as shown in Table 15.

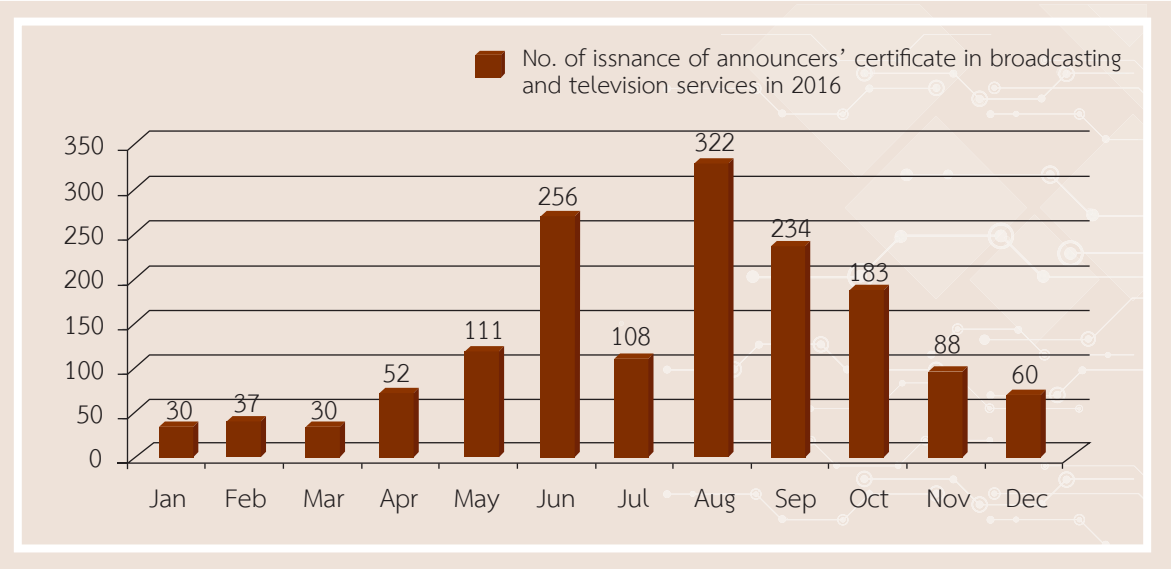
Table 15: Training courses for Announcers' Certificate in Broadcasting and Television Services in 2016

Level	No. of courses
Basic level	10
Middle level	12
High level	11
Total	**33**

Source: Professional Broadcasting Institution Development and Universal Service Bureau, Office of the NBTC

(2) Having issued 1,511 announcers' certificates (totally 4,981 certificates since the first issuance of certificates) with the objectives to promote and develop the potential of personnel in the broadcasting and television services to become the responsible persons who are aware of the importance of presenting information to the audience or listeners, and be the role models in the society to carry on the use of Thai language properly and correctly, especially for children and the youth. Details of the issuance of announcers' certificate in broadcasting and television services are shown in Chart 5.

Chart 5: Statistic of issuance of announcers' certificate in broadcasting and television services in 2016



Source: Professional Broadcasting Institution Development and Universal Service Bureau, Office of the NBTC

(3) Developing and enhancing skills of announcers, moderators in broadcasting and television services by carrying out the Project on "Development and Enhancing Skills of Announcers, Moderators in Broadcasting and Television Services", with the objectives to preparing readiness for the test to receive the announcer's certificate, encouraging and supporting personnel in the broadcasting and television services in the role of announcers and moderators, including supporting the citizen organizations and strengthening good relationship between the Office of the NBTC and relevant agencies as parties for driving the mission under the strategies of the NBTC. Five activities under the project were held, with totally 500 participants, in Bangkok, North Region (Chiangmai), South Region (Songkhla), Northeastern Region (Khon Kaen) and East Region (Chonburi) respectively; each activity was participated by 100 participants from organizations and people in different areas across the country.

(4) Having established the citizen network (viewers/listeners) in the broadcasting and television services which is a mechanism for regulation program contents. The responsibility of citizen network is to assist the officers in following-up and monitoring the presentation of program contents in all areas throughout the country. In the year 2016, 14 meetings for enhancing knowledge and understanding of the citizen network were organized continuously in Ayudhaya, Phetchaburi, Bangkok, Chonburi, Chiangmai, Nan, Chiangrai, Ubon Ratchathani, Khon Kaen, Udon Thani, Krabi, Songkhla, Surat Thani and Phitsanulok.

4.3 Prevention of aeronautical radio service interference by carrying out major activities as follows:

(1) Having formulated the NBTC Notification on Criteria for the Prevention of Frequency Interference in the Aeronautical Radio Service from the Radio Broadcasting Stations that have been assigned of the frequency which has been published in the Royal Gazette No.133, Special 49 D, on 26 February 2016 to ensure of the efficient use of the frequency, without severe interference, by taking into account the impact on safety of life, body and property of the people, national security and public safety. The Notification requires that the F.M. radio broadcasting stations that have been assigned of the frequency and the radio broadcasting stations for trial operation shall carry out the prevention of the spurious emission of the stations which cause interference to the aeronautical radio service.

At present, 308 F.M radio broadcasting stations that have been assigned of the frequency of totally 313 stations have sent the reports of the spurious emission which is accounted for 98 percent. For the radio broadcasting station for trial operation, they are in process of improvement of the spurious emission in order to meet the criteria which prescribing that the improvement shall be done within 180 days starting from the date the Notification has been effective or by 21 February 2017. The 23 examiners of spurious emission have been registered with the Office of the NBTC and there are 54 measurers of spurious emission.

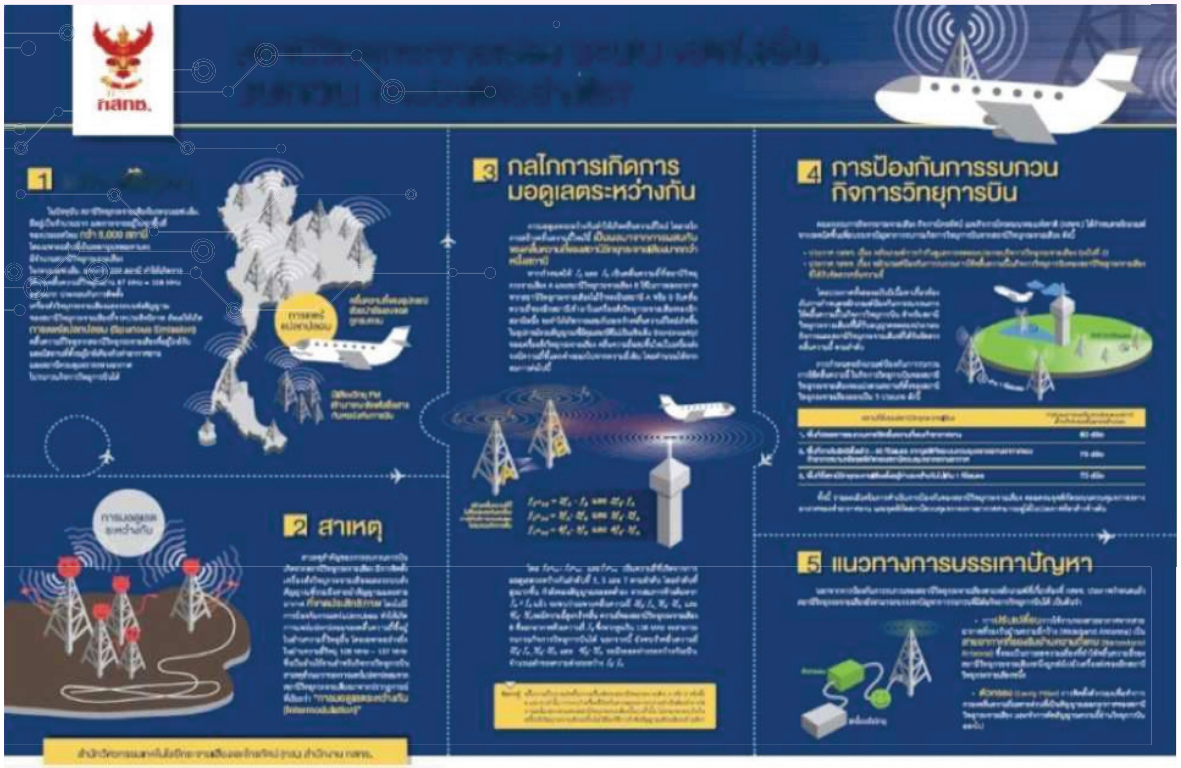
(2) Having formulated the NBTC Notification on Criteria on the Regulation of Radio Broadcasting Services for Trial Operation (No.2), which has been published in the Royal Gazette No.133, Special 49 D, on 26 February 2016, in order to facilitate the renewal of business trial operation and reduce the process of operation of the operators to be consistent with the operating procedures prescribing in the Licensing Facilitation Act B.E. 2558 (2015), and encourage the fair use of national resources, as well as generate more economic and social benefits, including the effective use of spectrum, without frequency interference in the aeronautical radio service, and cause no harm in life, body and property of the people, national security and public safety.

(3) Having formulated the NBTC Notification on Criteria on the Measurement of Spurious Emission of the Radio Broadcasting Stations for Trial Operation which has been published in the Royal Gazette No.133, Special 49 D, on 26 February 2016 to ensure the efficient use of the spectrum, without frequency interfere with the aeronautical radionavigation service and aeronautical mobile (R) service. The BC also set up the NBTC Notification on Criteria on the Measurement of Spurious Emission of the Radio Broadcasting Stations for Trial Operation which has been published in the Royal Gazette No.133, Special 128 D, on 3 June 2016 to ensure that the legal status of the examiners of the spurious emission of the station is in accordance with the intent of the law, and to clarify the regulatory process and procedure of the measurement of spurious emission of the stations.

(4) Setting up the system for monitoring location, type of area of interference, and the evaluation report of the spurious emission of the broadcasting stations that have been assigned of the frequency according to the NBTC Notification on Criteria for the Prevention of Interference of the Frequency Use in the Aeronautical Radio Service from the broadcasting stations that have been assigned of the frequency, and the NBTC Notification on Criteria on the Regulation of Radio Broadcasting Services for Trial Operation (No.2). The system can be accessed through the website of the NBTC (https:// broadcast.nbtc.go.th).

(5) Having published documents concerning the aeronautical radio interference from the F.M. broadcasting stations on “How is the aeronautical service interfered by the F.M. broadcasting stations?” to disseminate knowledge to broadcasting operators and those people who interested in order to understand the problem situation and guidelines for the prevention and mitigation of the problems.

Documents to disseminate knowledge on the aeronautical radio interference from F.M. broadcasting stations



4.4 Having examined the technical broadcasting and television signal by conducting a mobile lab for examining the technical broadcasting and television signal such as field strength, radio frequency interference, coverage service area, etc., testing the technical standards of radiocommunication devices according to the Radiocommunications Act B.E. 2498 (1955) including the verification of radio broadcasting transmitters (the property in dispute) in which the result of operation is as follows:

(1) Taking field operation to monitor radio frequency interference in cooperation with the working group to resolve the aeronautical radio interference during 24-26 February 2016 in Nakhon Ratchasima to gather data for the preparation of the (draft) NBTC Notification on Criteria on the Measurement of Spurious Emission of the Radio Broadcasting Stations for Trial Operation and the (Draft) NBTC Notification on Criteria for the Prevention of Frequency Interference in the Aeronautical Radio Service from the Radio Broadcasting Stations that have been assigned of the frequency. The Office of the NBTC had monitored the frequency interference for 10 times which were divided to the demonstration of the measurement of the spurious emission of the radio broadcasting stations in the training courses/seminars under the MOU between Ministry of Transport and the Office of the NBTC for 4 times (Lampang, Udon Thani, Songkhla, and Bangkok),

the measurement of the spurious emission in order to prepare the report of the spurious emission of the 1 Por Nor radio broadcasting stations in the frequency 89 MHz and 102 MHz, for 2 times (Ubon Ratchathani and Phuket), and organizing the field test in the training courses on the examiners of the spurious emission of the radio broadcasting stations for trial operation, for 4 times (Nakhon Ratchasima, Suphanburi and Chiangmai).

(2) Testing the technical standards of radio broadcasting transmitters for trial operation according to the Radiocommunications Act B.E. 2498 (1955) on 24 October 2016.

(3) Verifying the radio broadcasting transmitters for the trial operation (the property in dispute) for police stations and Sub-division for 8 times (from March to December 2016).

(4) Comparison of guilty under the Radiocommunications Act B.E. 2498 (1955) for 246 cases

4.5 Having law enforced on the broadcasting or television operators and the unauthorized operators such as warning, filing complaints and accusation to police officers, or searching and arresting, prosecution, conducting criminal proceedings, etc., by working in cooperation with military and police officers. Details are as shown in Table 16 - 17.

Table 16: Law enforcement on the broadcasting licensees

Broadcasting licensees	Details	No. of cases
Guilty in broadcasting service	Fact verification	112
	Fact verification	24
Guilty in television service	Complaints and accusation	2

Source: Broadcasting Enforcement Bureau, Office of the NBTC

Table 17: Law enforcement on the unlicensed broadcasting operators

Unlicensed broadcasting operators	Details	No. of cases
Guilty in broadcasting service	Filing complaints and accusation to police officers for prosecution	2
	Search and arrest	26
Guilty in television service	Filing complaints and accusation to police officers for prosecution	1
	Search and arrest	2
Unlicensed Set-Top-Box	Search and arrest the distributors of unlicensed Set-Top-Box	7

Source: Broadcasting Enforcement Bureau, Office of the NBTC

5. Consumer Protection in Broadcasting and Television Services

In 2016, the BC had carried out activities for protecting consumers' rights, by taking into account the human rights principles, for not being exploited by the broadcasting and television operators including promoting the potential of people to be well-aware, strong, self-protected, as well as be able to access, understand and use media effectively as follows:

5.1 Setting up the practical guidelines relating to consumer protection in order to protect consumers' rights and liberty for not being exploited by the broadcasting and television operators as follows:

(1) Setting up the Office of the NBTC's Notification on the Action which Exploits Consumers in the Broadcasting and Television Services under Item 4 (12) of the NBTC Notification on the Action which Exploits Consumers in the Broadcasting and Television Services B.E. 2555 (2012) (No.2) prescribing the main essence as follows:

- The advertising that the service provider offers a special right to use service to the subscriber for sale promotion at any period of time and the service provider retains the right to use that service for less than 30 days starting from the date of advertisement, the action is considered as an act that exploits consumers.

- The advertising that providing inaccurate information or hiding important information, or providing unclear information, or failing to present information which is necessary to make decision to use the service, or hiding the fact that the users should be informed and it misleads the users of the facts, qualifications or features of the service that affects the user's decision-making, is the action which exploits consumers.

(2) Setting up the Office of the NBTC's Notification on the Action which Exploits Consumers in the Broadcasting and Television Services under Item 4 (12) of the NBTC Notification on the Action which Exploits Consumers in the Broadcasting and Television Services B.E. 2555 (2012) (No.3) by prescribing that the action of television licensees who broadcast programs or advertising containing contents in sort of persuading or inducing consumers to choose illegal services or goods, or deluding by mean of superstition or faith of a person which is unable to prove by reason or a process of proof that is acceptable, is the action which exploits consumers by mean of using network or advertising that tends to cause any trouble or annoyance.

(3) Setting up the principles and procedures for placing orders and administrative penalties for the broadcasting or television licensees who violate the order to suspend the action which exploits consumers by advertising services or products exceed the period prescribed by the law according to the Resolution of the BC Meeting No.8/2016 on 29 February 2016.

(4) Setting up the principles and procedures for placing orders and administrative penalties for the broadcasting or television licensees who violate the order to suspend the action which exploits consumers by having refunded the equipment warranty fee or the outstanding payment of service fee to the users later than the period prescribed by the law according to the Resolution of the BC Meeting No.28/2016 on 22 August 2016.

5.2 Having regulated the actions which may exploit consumers in the broadcasting and television services by following-up and monitoring the broadcasting of programs or advertising which may be an action to exploit consumers such as programs/advertising of food, drug and health products, agricultural chemicals, fraudulent advertising, etc., taking action in case of complaints, preparing documents and evidences for the consideration and regulation, and having cooperation with the relevant agencies for carrying out further legal action, licensing consideration, license renewal, name amendment, business cancellation, as well as background check for the use of complaints consideration. The operation has been done continuously on the following services.

1) Frequency-used television service (Digital TV)
2) Non frequency-used television service (Satellite TV and cable TV), and
3) Broadcasting service, in category of commercial service

Details are as shown in Table 18.

Table 18: Regulation of the action which exploits consumers in broadcasting and television services

Process of Operation	Frequency-used television service	Non frequency-used television service	Broadcasting service
Having administrative orders to the licensees to temporarily suspend the advertising which may exploit consumers.	1 licensee 1 channel	11 licensees 11 channels	4 licensees 4 stations
Having administrative orders to the licensees to suspend the action which exploit consumers.	4 licensees 5 channels	42 licensees 49 channels	16 licensees 17 stations
Following-up, monitoring, watching, and finding out the advertising which may exploit consumers	2 licensees 2 channels	20 licensees 20 channels	8 licensees 8 stations

Source: Broadcasting Consumer Protection Bureau, Office of the NBTC

5.3 Having promoted the Disabled, the Elderly or the Disadvantaged to be able to access, receive and utilize information as equal as the general people.

In 2016, the BC had carried out activities to promote the Disabled, the Elderly or the Disadvantaged to be able to access, receive and utilize information as equal as the general people as follows:

(1) Setting up the NBTC Notification on promotion and protection of rights of the Disabled to be able to access, receive or utilize the television programs in order to ensure that the Disabled are provided with the information services from television programs as the general people. The Notification, which prescribed that the television licensees shall provide a sign language interpreter, caption service, audio description and other services as determined by the BC, has been published in the Royal Gazette No.133, Special 35 D, on 5 February 2016.

(2) Organizing the public consultation meetings on the (draft) service provision standard, technical standard, and the appropriateness of types of TV programs having sign language interpreter service, caption service, and audio description in September and December 2016 at the Office of the NBTC. The participants to the public consultation consisted of digital terrestrial television operators, representatives of the organizations with disability in each type, such as Thailand Association of the Blind, National Association of The Deaf in Thailand, etc., academic institutions, and other agencies concerned.

(3) Having promoted the access to and utilization of radio-television media of the Disabled, the Elderly, or the Disadvantaged, in cooperation with other organizations by providing services or programs for supporting the access to information on TV programs as equal as the general people. The services are sign language interpreter service, caption service, and audio description.

5.4 Having implemented the project for extending opportunities for the access to and receipt of information in broadcasting and television services in the target areas.

Due to the difference of the access to broadcasting and television services of people especially those who are living in remote rural areas, they are unable to be promoted of people's rights, liberty and equality to access to and receive information equally and universally. Therefore, to encourage the participation of the community, generate proper channels for receiving information and study the limitation of the access and receipt of information and services for people in the target areas, the BC has supported the extension of opportunities and channels for receiving information in the broadcasting and television services in the target areas in form of data dissemination to the target areas. The data dissemination to rural areas will be done by sending contents from the central area, which the information will be classified into 6 main categories: education, career promotion, technology, health, laws, and others, then the information will be imported to

the central information management system, before distributing to the Media Community Center and sending to the Media Box to show the result through television screen., the data can also be viewed through remote control. The data transmission from the central to the target areas will be done via satellite communication system, copper wire network, or others depending on the appropriateness of geography in each area. The system can be configured to send data over time or immediately, including sending information or messages to display the result on television screen. At present, there are 13 centers in different provinces. Details are as shown in Table 19.

Table 19: Number of Media Community Centers

No.	Provinces	No. of Centers
1	Nakhon Si Thammarat	3
2	Kalasin	4
3	Mukdahan	1
4	Chiangmai	3
5	Chiangrai	2

Source: Professional Broadcasting Institution Development and Universal Service Bureau, Office of the NBTC

5.5 Promoting and supporting the development and increase the potential of people on media literacy

In 2016, the BC had carried out activities for developing and increasing the potential of people on media literacy, which consisted of

(1) Promoting the radio-television media literacy in which the Office of the NBTC, in cooperation with Suan Sunandha Rajabhat University, organized trainings to strengthen leadership for building skill on media literacy, Class 2, and activities for encouraging the conglomerate of consumer network for media literacy in broadcasting and television services in 4 regions in Songkhla, Chiangmai, Nakhon Pathom and Buriram.

(2) Joining the affiliated parties in organizing activities to enhance media literacy of the public, such as “Smart Media for Smart Consumers vs Value and Sustainability of Digital TV” held in April 2016 in Bangkok which participated by all digital TV operators in order to create the idea of adding value to digital TV and raise awareness of the media on the importance of the development of media receivers in every step of the operation, content determination which is the valuable essence to media receivers leading to the improvement of the quality, creation, and value of digital television.

(3) Organizing the Citizen Forum on Conceptual and Curriculum Framework of Media, Information and Digital Literacy for Democratic Citizen in August 2016 in Bangkok, which focused on encouraging the active participation of all parties concerned for making changes in the future.

(4) Organizing the "People and Media Literacy" Forum, Class 2, in July 2016 in Bangkok, to promote and enhance the potential of the youth to use radio and television media knowingly and wisely, and be able to lead and take part in the process of thought and activities with the Office of the NBTC in the future.

5.6 The consumer network conglomerate and strengthening and the enhancement of knowledge and understanding about consumer protection

In 2016, the BC had carried out activities to promote the conglomerate and established the collaboration with public and private organizations and consumer protection networking order to organize activities for exchanging information and opinion, conducting social campaigns and other activities for self-protection. Details are as shown in Table 20.

Table 20: Activities to promote the conglomerate of consumer network and enhance knowledge and understanding on consumer protection

Activity	Objectives	Dates/Venue
Activitiy to promote the conglomerate and establishment of consumer network in 4 regions	To develop the potential of the consumers to have knowledge and understanding, alertness, self-defense, and be able to access, understand and use media efficiently for their own benefits.	• 17-18 June 2016/ Khon Kaen • 29-30 July 2016/ Song Khla • 26-27 August 2016/ Chiangmai • 6-7 October 2016/ Nakhon Pathom
Workshop on strengthening consumer network, the group of Lesbian, Gay, Bisexual and Transgender/ Transsexual (LGBT) (in cooperation with Thai Transgender Alliance)	To protect the group of LGBT as consumers in broadcasting and television services from being violated by broadcasting and television operators by taking into account the human rights principles, to strengthen consumer network, the group of LGBT, and to arrange proposals on the presentation of content relating to the group of LGBT through radio – television media efficiently.	• 12-13 October 2016/ Nonthaburi

Table 20: Activities to promote the conglomerate of consumer network and enhance knowledge and understanding on consumer protection (Continued)

Activity	Objectives	Dates/Venue
Workshop on the Exchange of Knowledge and Experiences on Thailand - Lao PDR Consumer Protection: First Step to the Media Consumer Protection in ASEAN (in cooperation with Uttaradit Rajabhat University)	To raise awareness on consumers' rights in broadcasting and television services with the view to responding to the nature of business nowadays which is a borderless media, and a variety of information is exchanged between Thai and Laos people through various channels including from other countries	• 9-10 November 2016/ Nan

Source: Broadcasting Consumer Protection Bureau, Office of the NBTC

5.7 Developing channel for communication concerning consumer protection between the Office of the NBTC and Radio-Television Media Consumer Network and disseminating knowledge on media literacy to the general public through website: http://bcp.nbtc.go.th/ or www.facebook.com and Radio-Television Media Consumers' News Letter "Knowing Media, Knowing Rights".



Major Performance of Telecommunications Commission (TC)

In 2016, the TC had carried out the important activities as follows:

1. The licensing to use spectrum and operate business by taking into account the utmost benefit of people in national and regional levels in education, culture, state security and other public benefits as follows:

1.1 The licensing to use spectrum

1.1.1 Overview of the licensing to use spectrum in telecommunications services under licensing regime. Details are as shown in Table 21.

Table 21: Frequency assignment under the licensing regime

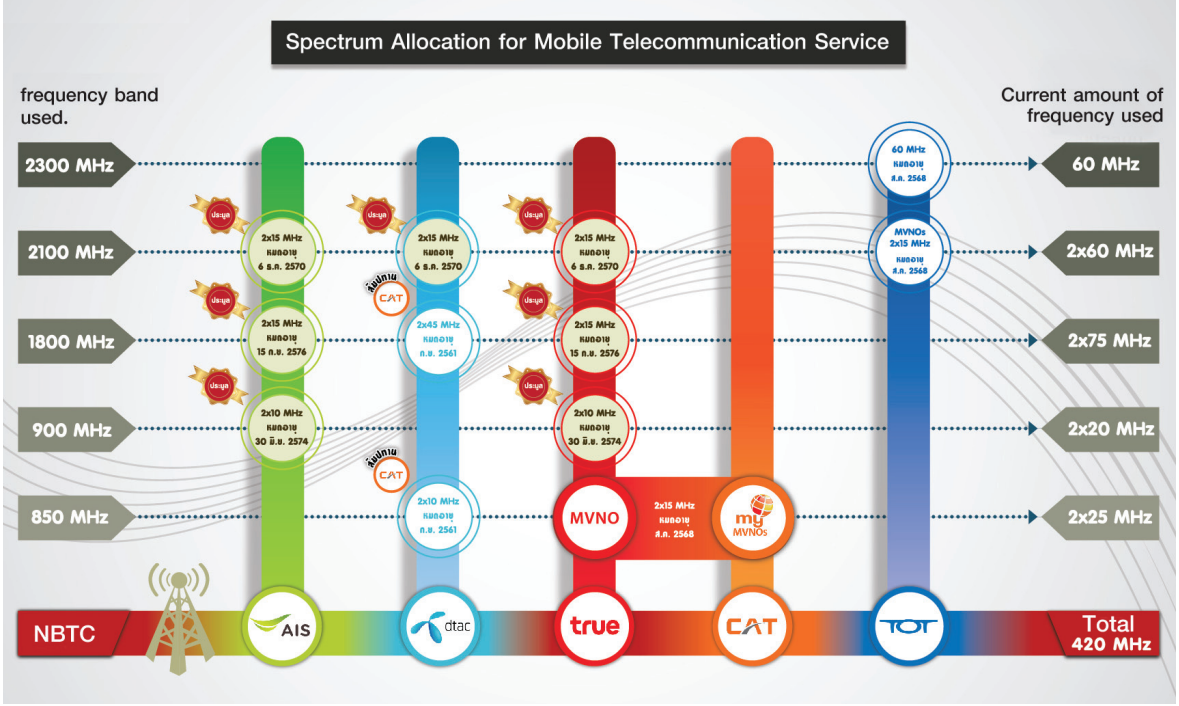
Frequency band	Frequency assigned	Licensee to use frequency	Beginning and ending date of the license to use frequency
2100 MHz	Frequency band of 1920 - 1935 MHz / 2110 - 2135 MHz	DTN	7 Dec. 2012 - 6 Dec. 2027
	Frequency band of 1935 - 1950 MHz / 2125 - 2140 MHz	TUC	
	Frequency band of 1950 - 1965 MHz / 2140 - 2155 MHz	AWN	
1800 MHz	Frequency band of 1710 - 1725 MHz / 1805 - 1820 MHz	AWN	26 Nov. 2015 - 15 Sep. 2033
	Frequency band of 1725 - 1740 MHz / 1820 - 1835 MHz	TUC	4 Dec. 2015 - 15 Sep. 2033

Table 21: Frequency assignment under the licensing regime (Continued)

Frequency band	Frequency assigned	Licensee to use frequency	Beginning and ending date of the license to use frequency
900 MHz	Frequency band of 895 - 905 MHz / 940 - 950 MHz	AWN	1 Jul. 2016 - 30 Jun. 2031
	Frequency band of 905 - 915 MHz / 950 - 960 MHz	TUC	16 Mar. 2016 - 15 Mar. 2031

Source: Facilities - based Telecommunications Business Licensing Bureau, Office of the NBTC

Currently, the spectrum that has been allocated to the industries both in the concession and licensing systems are totally 420 MHz as shown below.



Source: Facilities - based Telecommunications Business Licensing Bureau, Office of the NBTC

In 2016, the TC had granted two licenses to use the spectrum for telecommunications service in the frequency band of 900 MHz as follows:

(1) The frequency band of 895-905 MHz/940-950 MHz, the TC had organized the spectrum auction in the frequency band of 895-905 MHz/940-950 MHz which started on 15 December 2015 and ended on 19 December 2015 and the winning bidder was JAS Mobile Broadband Company Limited (JAS). However, JAS failed to comply with the conditions of the licensing before having the license to use spectrum in the frequency band of 900 MHz granted, that is JAS failed to pay the first installment of the spectrum auction fee at the amount of 8,040 million baht by 21 March 2016. Subsequently, the Head of National Council for Peace and Order had issued the Order No.16/2016 assigning the NBTC to re-organize the spectrum auction in the frequency band of 895-905 MHz / 940-950 MHz on 27 May 2016, which Advanced Wireless Network Company Limited (AWN) won the bid at the amount of 75,654 million baht. After the AWN had duly fulfiled the conditions before having the license to use spectrum in the frequency band of 900 MHz granted, the TC therefore had its Resolution in the TC Meeting No.14/2016 on 28 June 2016, to grant the license to use spectrum for telecommunications services and telecommunications business license, Type 3 for the provision of telecommunication services in the frequency band of 900 MHz to the AWN (the license has been effective on 1 July 2016, and will be expired on 30 June 2031).

In the case that JAS failed to comply with the conditions of the licensing before having the license to use spectrum in the frequency band of 900 MHz granted, the TC has forfeitured of the auction guarantee at the amount of 644 million baht. In addition, for the state benefit, the TC has claimed for damages at the amount of 196,073,991.61 baht, including 7.5 percent of interest charge from 16 June - 30 June 2016 at the amount of 581,653.31[2] baht, which made the total of 196,655,644.92 baht, and JAS had already paid on 28 June 2016.

(2) The frequency band of 905-915 MHz/950-960 MHz, the TC had organized the spectrum auction in the frequency band of 905-915 MHz/950-960 MHz which started on 15 December 2015 and ended on 19 December 2015 and the winning bidder was True Move H Universal Communication Company Limited (TUC). The TUC had duly fulfiled the conditions before having the license to use spectrum in the frequency band of 900 MHz granted, the TC therefore had its Resolution in the TC Special Meeting No.1/2016 on 14 March 2016, to grant the license to use spectrum for telecommunications services

[2] Calculation was made to 28 June 2016 or the day that the AWN had paid for the auction fee in the frequency band of 900 MHz.

and telecommunications business license, Type 3 for the provision of telecommunication services in the frequency band of 900 MHz to the TUC (the license has been effective on 16 March 2016, and will be expired on 15 March 2031).

1.1.2 Licensing to use frequency in radiocommunications service

Having assigned the frequency in radiocommunications service whethernew frequency assignment or frequency refarming to the government agencies, state-enterprises, private organizations, private organization for charity, and Local administrative organization for 619 frequencies. Details are as shown in Table 22.

Table 22: Frequency assignment in radiocommunications service in 2016

No.	Organizations that has been granted license to use frequency	Frequency band	Amount of frequency
1	Government agencies	VHF	40
		UHF	85
2	State-enterprises	UHF	62
		VHF	28
3	Private organizations	SHF	56
		UHF	45
		VHF	116
4	Private organizations for charity	VHF	11
5	Local administrative organizations	UHF	51
		VHF	125
	Total 619 Frequencies	**SHF**	**56**
		UHF	**243**
		VHF	**320**

Remark: * Data as of the 3rd Quarter of 2016

Source: Radiocommunications Licensing Bureau, Office of the NBTC

1.2 Business licensing

In 2016, the TC had issued 156 licenses for telecommunications services which can be divided into 79 licenses for telecommunications business and 77 licenses for internet service provision. Also, the TC had granted licenses for new services consisting of internet services via satellite, vessel monitoring system (VMS) service on merchant ships, and signal transmission through satellite resale service (Transmission Platform). Details are as shown in Table 23.

Table 23: Number of licenses for telecommunications services in 2016*

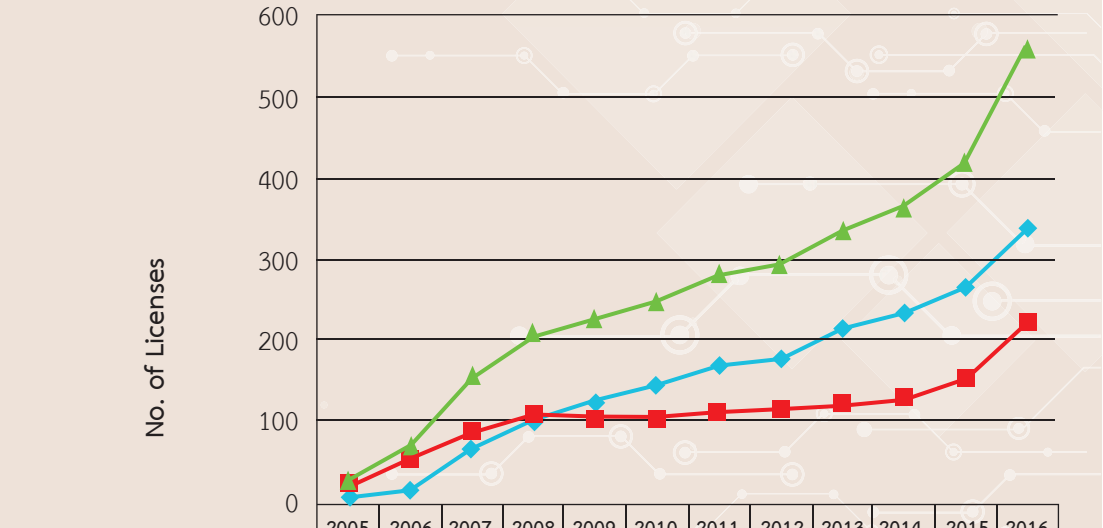
No.	Type of licenses	No. of licenses
1	Telecommunications business license, Type 1	78
2	Telecommunications business license, Type 2 without having own network	-
3	Telecommunications business license, Type 2 with having own network	-
4	Telecommunications business license, Type 3	1
5	Internet service provision license, Type 1	75
6	Internet service provision license, Type 2 without having own network	-
7	Internet service provision license, Type 2 with having own network	-
8	Internet service provision license, Type 3	2
	Total	**156**

Remarks: * Data as of 30 November 2016

Source: Facilities – based Telecommunications Business Licensing Bureau and Service – based Telecommunications Business Licensing Bureau, Office of the NBTC

Currently, there are totally 563 licensees of telecommunications services. Details are shown in Chart 6.

Chart 6: Accumulated number of licenses for telecommunications services*



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Telecommunications licenses	5	16	66	102	122	144	170	177	215	234	265	338
Internet licenses	23	54	90	106	105	105	111	115	121	129	153	225
Total No. of licenses	28	70	156	208	227	249	281	292	336	363	418	563

Remarks: * Data as of 30 November 2016

Source: Facilities – based Telecommunications Business Licensing Bureau and Service – based Telecommunications Business Licensing Bureau, Office of the NBTC

1.3 Providing facilitation to the applicants for telecommunications service licenses in regional areas

To facilitate and reduce burden and costs of the people wishing to apply for licenses in provincial areas, the TC has improved the licensing process for telecommunications services, and organized 4 workshops for the Office of the NBTC Regions and the Office of the NBTC Sub-regions to be prepared for receiving and considering the applications for/ renewal of licenses to operate telecommunication business. It is expected that the operation will be started by 2017.

2. Regulation of telecommunications services

2.1 Having regulated the rate of service charge and fee in telecommunications services as follows:

2.1.1 Setting up the special rate of mobile service charge for the Disabled according to the licensing conditions to use spectrum for telecommunications services in the frequency band of 1800 MHz and 900 MHz prescribing that the telecommunications business licensees shall carry out measures for society and consumer protection. In other words, the licensees must define a special rate of mobile service for the Disabled. The Office of the NBTC has coordinated with the Ministry of Social Development and Human Security to jointly prepare for the relevant action including the memorandum of understanding. In addition, the relevant associations and foundations related to the Disabled were also invited to attend the meeting to discuss the needs of mobile phone usage as well as the licensees to use spectrum in the frequency band of 1800 MHz and 900 MHz were also invited to discuss about special promotion designed for the Disabled. The meeting agreed that licensees shall reduce 10% of service charge in all sale promotion programs. Moreover, the TC has carried out the "Project on registration management system for defining rights to activate mobile phone numbers in special rate for the Disabled according to the conditions attached to the license to use spectrum for telecommunications services in the frequency band of 1800 MHz and 900 MHz" in order to regulate the operation of the telecommunications licensees consisting of establishing the database of the Disabled classified by types of disability, developing a system for data management and linkage both within and between the relevant organizations, and developing web application for the registration for defining rights to activate mobile phone numbers in special rate for the Disabled under the conditions attached to the license to use spectrum for telecommunications services in the frequency band of 1800 MHz and 900 MHz to prevent the overlapping of the exercise of rights to use the mobile phone numbers in special rates for the Disabled according to the conditions attached to the license to use spectrum for telecommunications services in the frequency band of 1800 MHz and 900 MHz.

2.1.2 Studying and analyzing expense or costs for the regulation and setting up criteria for defining fees for telecommunications services such as spectrum license fees, telecommunications numbering fees, and annual telecommunications business license fees as well as the impact may be arised. The meetings were organized for getting feedback and opinion from stakeholders including executives and officials of the Office of the NBTC, telecommunications operators, consumers' representatives and scholars on the criteria for defining fees for telecommunications services. Currently, the Office of the NBTC has been in the process of preparing result report of the study and proposing recommendations for the more efficient regulation to the TC Meeting for further consideration.

2.2 Having regulated the telecommunication network interconnection rate by issuing the NBTC Notification on Reference Rate of Telecommunications Network Interconnection which has been published in the Royal Gazette on 6 December 2016 to be in accordance with the regulatory guidelines and determination of the telecommunication network interconnection rate which is fair to the telecommunications users and for the utmost benefit of the general public. The Notification will reduce the telecommunication network interconnection rate of the entire industries since 1 January 2017 onwards. Details are as shown in Table 24

Table 24: Reference Rate of Telecommunications Network Interconnection

Type of service	Telecommunications network interconnection service	Reference Rate of Telecommunications Network Interconnection		
		1 Jul 2015 - 31 Dec 2017	1 Jan 2017 - 31 Dec 2017	1 Jan 2018 - 31 Dec 2018
Mobile phone	Call Origination	0.34 (baht/minute)	0.27 (baht/minute)	0.19 (baht/minute)
	Call Termination	0.34 (baht/minute)	0.27 (baht/minute)	0.19 (baht/minute)
	Call Transit	0.04 (baht/minute)	0.03 (baht/minute)	0.03 (baht/minute)
Fixed phone	Call Origination	0.34 (baht/minute)	0.31 (baht/minute)	0.28 (baht/minute)
	Call Termination	0.34 (baht/minute)	0.31 (baht/minute)	0.28 (baht/minute)
	Call Transit	0.16 (baht/minute)	0.16 (baht/minute)	0.15 (baht/minute)
	Call Termination for Local Call	-	0.83 (baht/time)	0.75 (baht/time)

Source: Telecommunication Access Bureau, Office of the NBTC

In 2016, the contracts of telecommunication network interconnection and telecommunication network access which had been approved by the TC, were 16 and 20 contracts respectively.

3. Telecommunications business development and telecommunications resource management

3.1 Having allocated telecommunications numbers as follows:

(1) Fixed-line numbers: according to the NBTC Notification on Telecommunications Numbering Plan, the group of fixed telephone numbers was allocated for totally 50,000,000 numbers (Group 02 03 04 05 and 07). From those numbers, at present[3] the TC has allocated the fixed-line numbers to 10 fixed-line operators for 20,764,000 numbers, or accounting for 41.59 percent of the allocation. Details are as shown in Table 25.

Table 25: Fixed-line numbers allocation in 2016*

Prefix	Total numbers	Balance
02	9,916,000	84,000
03	3,727,000	6,273,000
04	2,436,000	7,564,000
05	2,723,000	7,277,000
07	1,962,000	8,038,000
Total	**20,764,000**	**29,236,000**

Remarks: * Data as of the 3rd Quarter of 2016

Source: Numbering Management Bureau, Office of the NBTC

(2) Mobile phone numbers: the NBTC Notification on Telecommunications Numbering Plan prescribes the group of mobile phone numbers which consists of 360,000,000 numbers and those numbers are divided into the group 01 for 100,000,000 numbers, the group 08 for 100,000,000 numbers, the group 09 for 100,000,000 numbers, and the group 06 for 60,000,000 numbers (only the group of 061-066).

[3] As of 31 October 2016

At present[4], the TC has allocated mobile phone numbers to 11 mobile phone operators and MVNO service providers for totally 188,809,397 numbers (excluding the numbers in the group of 01 that are in process of consideration of policy-making) which is accounted for 72.6 percent of the allocation. Details are as shown in Table 26.

Table 26: Mobile phone numbers allocation in 2016*

Details of numbers		Total
Numbers assigned	08	36,390,000
	09	82,990,000
	06	42,310,000
	Total	**161,690,000**
Numbers from the provision of MNP service[5]		27,119,397
Total numbers in the possession[6]		188,809,397

Remarks: * Data as of the 3rd Quarter of 2016

Source: Telecommunications Numbering Management Bureau, Office of the NBTC

3.2 Right of Ways

3.2.1 Having revised the Notification on Right of Ways as the NTC Notification on criteria and procedure regarding the exercise of rights to set up or erect poles, place lines or lay ducts or install any other associated equipment for the provision of telecommunications services (old criteria on right of ways) has been effective for long times since 18 March 2009 and several issues in such Notification have not covered the regulation of telecommunications operators. In addition, to ensure that the Notification covers legal aspect and be in accordance with international practices, the NBTC has therefore revised the criteria on right of ways by formulating the (draft) NBTC Notification on criteria and procedure regarding the exercise of rights to set up or erect poles, lay lines or place ducts or install any other associated equipment for the provision of telecommunications services

[4] Data as of 31 October 2016.

[5] Numbers from the provision of MNP service means the numbers that have been ported between service providers and the numbers that have been ported from the company which the concession has ended to the company of another service provider.

[6] Total numbers in the possession means all numbers of mobile phone service providers that have been allocated and the numbers from the provision of MNP service.

(new criteria on right of ways) which has already been approved by the NBTC Meeting No.11/2016 on 14 December 2016 to publish in the Royal Gazette for further enforcement. The main essence of the new criteria on right of ways is as follows:

(1) Licensees shall organize or manage the laying of communication lines to be nice and orderly, whether the lines having been used or have not used, to be in the specified period set by the NBTC. This will help reducing the environmental impact.

(2) Reduction of consideration process of approval period from 60 days to 30 days.

(3) Documents shall be submitted through E-doc to apply for the exercise of right of ways for a more rapid process and reduction of paper consumption. In addition, the operators are able to check on their requests through the E-doc as well.

(4) The Office of the NBTC is assigned to link the data of Geographic Information System (GIS) with the Metropolitan Electricity Authority and Provincial Electricity Authority.

3.2.2 Setting up practical guidelines for the investment and construction of underground communication lines conduits because the electricity poles in some areas or routes are unable to bear more weights of the communication lines to be laid on or the communication lines laid on the electricity poles have been untidy and disorganized. It is therefore necessary to take the communication lines underground. However, since there is no standard for the use, the investment and the construction of underground communication lines but the operators' specific construction for their own business, leading to the different standards of diggings and unagreeable rental rates. In addition, telecommunications operators have faced with the problems of being unable to place the communication lines on or construct conduits with the infrastructure of public agencies such as the Chao Phraya River Bridge, place the lines cross the road, place the lines on the pedestrian overpass, etc. Thus, if the standards of the use, investment and construction of underground conduits with the public agencies' infrastructure has been formulated based on the promotion of basic universal telecommunications service, the support of free and fair competition and the utilization of resources can be used as the practical guidelines for operators, it will bring the advantages to local administrative organizations in managing the cities to be nice and tidy.

Therefore, to provide the operators with the practical guidelines on the use, investment and construction of underground conduits with the infrastructure of public agencies for the provision of telecommunications services in Thailand and in order to support the sharing of underground conduits of the operators under the same standards and practices, the NBTC has formulated the (draft) NBTC Notification on the practical guidelines on the use, investment and construction of underground conduits with the public agencies' infrastructure for the provision of telecommunications services. The draft Notification will contain guidelines for calculating the compensation rates for the use of conduits so that the operators can share the conduits.

3.3 Having drafted the Telecommunications Master Plan No.2 (2017-2021) to use as guidelines for developing and regulating telecommunications services of Thailand in the 5-year period, in the continuation of the Telecommunications Master Plan No.1 (2012-2016), which had been presented to the TC Meeting No.31/2016 on 7 December 2016. The Meeting took note and had its resolution to organize the workshops for gathering information for being used in further drafting the Master Plan.

4. Universal Basic Telecommunications Service

4.1 Supporting the provision of information services to visual impaired people, the elderly, the people with disability on some types of learning which may have an impact to the development of their quality of lives, so that they can access to and receive information via the print disabled media whether in education, occupation, skill enhancement, or other useful information through various channels of services such as Hotline 1414, Tab2Read, Tab Radio, reading services, and Audio Description (AD). Details are as shown in Table 27.

Table 27: Type of information service provision

Type of service provision	Channel of service provision
Service No.1 1414: Hotline for providing information service via automatic telephone. The users can choose the information to listen select the service from the menu such as information on the Disabled, daily news from newspapers, news websites and "morcom" in order to consult problems and get advice on the use of the computer and IT.	Tel: 1414 in 2016 there are 510 lines available for service
Service No.2 Tab2Read: providing the online library service of audio book in DAISY system	• www.tab2read.com • Tab2read Application
Service No.3 Tab Radio: providing radio prototype service for the access to information of books, printed matter, and news through radio programs. The service is available from Monday to Sunday during 08.00 - 16.00 hrs.	• www.radio.tab.or.th • Tel: 1414 • Tabradio Application
Service No.4 Audio Description (AD) which is the audio description on television programs, films, and exhibitions to enable the Blind to receive clearer information, especially in part of main contents of the program which was presented through soundless composition (service available since October 2015)	• www.adofthailand.com • Tel: 1414 • Tab2read Application

In 2016, there were 3,921,121 times of the use of services through Hotline 1414, Tab2Read, Tab Radio, and Audio Description (AD).

4.2 Having supported the people with hearing disabilities and the speech-impaired people who have problems and obstacles to communicate by speech with general people to be able to access to the universal basic telecommunications services through Thai Telecommunication Relay Service (TTRS) throughout the country. The service can facilitate the people with hearing disabilities and the speech-impaired people in various dimensions such as ordering pizza, job applying on call, booking travel packages, or family calls, including the access to emergency services by themselves. Moreover, there are 180 TTRS kiosks in the academic institution, government venues, department stores, and bus terminals in which the service is available from 07.00 - 23.00 hours and 40 sign language interpreters. Details are as shown in Table 28.

Table 28: Types of Thai Telecommunication Relay Service

Type of TTRS	Channel for communications
1. SMS	Tel: 086 000 5055 (in general and emergency case)
2. TTRS Message	Download applications at Play Store (Android) and App Store (IOS)
3. Chat conversation on internet	www.ttrs.or.th
4. Video chat on internet	www.ttrs.or.th
5. TTRS Video application	Download applications at Play Store (Android) and App Store (IOS)
6. Video chat through TTRS kiosk	Check the list of venues for kiosk installation at www.ttrs.or.th At present, there are 180 kiosks throughout the country.
7. TTRS speech improvement for the alarynx people and the people with cleft lip and cleft palate	Tel: 1412 press 3 for the alarynx people press 4 the cleft lip and cleft palate people
8. TTRS Captioned Phone	Download applications at Play Store (Android) and App Store (IOS)
9. TTRS emergency call	All channels having emergency sign

In 2016, the number of use of services was 185,193 times[7]

[7] Data as of November 2016

At present, the TTRS center of Thailand is widely known and being recognized and commended by the countries in the Asia-Pacific region to the role model for the development of specialized telecommunications systems for the people with hearing impairment and speech impaired. Representatives from several countries such as Japan, Lao People's Democratic Republic, People's Republic of China have requested to study visit the system operation of TTRS Service.

4.3 Having carried out the project on NBTC-ITU Volunteers (NIV) under the MoU between the Office of the NBTC and International Telecommunication Union (ITU), Class 3, to encourage the NIV volunteers with the potential in information technology to transfer knowledge to people in 20 centers of 16 provinces: Songkhla, Phatthalung, Trang, Krabi, Nan, Phayao, Chiangmai, Chaiyaphum, Khon Kaen, Loei, Buriram, Roi Et, Nakhon Phanom, Sisaket, Suphan Buri and Nakhon Pathom, with the purposes to improving the quality of life and reducing disparities of people in society. The implementation of the project make people understand the basic use of computer, be able to apply the knowledge for improving the quality of life and reduce disparities of people in society as set by the goals. The model of project management has been recognized by other ITU member countries such as Malaysia, Cambodia, and the Lao People's Democratic Republic, etc., and used as prototype project for building the volunteerism in their own country.

4.4 Having supported and expedited the installation of the village-based internet under the mission on universal basic telecommunications service obligation and social service according to the government's policy to expand the broadband network to cover every village in Thailand in order to upgrade the telecommunications infrastructure for driving national economy. The Office of the NBTC has been assigned by the government to be responsible for 3,920 villages in rural remote areas (Zone C+) and other 15,000 villages in the areas that the broadband networks have not yet covered. The project has been in process of preparing for the survey of target areas in order to determine a point of village-based internet installation under the NBTC's mission on universal basic telecommunications service obligation and social service (USO).

5. Consumer protection in telecommunications service

5.1 Having revised procedures for complaint receipt and consideration of telecommunications users by formulating the NBTC Notification on Procedure for Complaint Receipt and Consideration on Telecommunications Services B.E. 2559 (2016) which has been published in the Royal Gazette on 16 August 2016. The main content of the Notification consists of the determination of timeframe for complaints receipt and consideration of the Office of the NBTC in each process, such as when a complaint is received, the licensee who is the party must be notified of the complaint in written by the Office of the NBTC within 3 business days starting from the date that the complaint is accepted by the Office of the NBTC, and the licensee must clarify the facts together with showing relevant evidences to the Office within 7 days starting from the date of receipt of the notification. If the licensee does not clarify or show the evidence to the Office by the given time, the Office shall consider the complaint based on the existing evidence. However, in case of force majeure or other necessities that make the licensee fail to clarify the facts or show the relevant evidence by the given time, the licensee may request an extension of the period of clarification or showing evidence to the Office before the given period of time for once but not exceeding 7 days. This Notification will be beneficial to consumers of the facilitation and fairness.

5.2 Having measured the level of strength of electromagnetic field of radiocommunications stations in the actual operating sites in accordance with the NTC Notification on Criteria and Measure for the Regulation of Safety on Human Health from the Use of Radiocommunications Devices. The users were selected randomly and the measurement results was disseminated to the general public and interested parties via the website of the NBTC.

5.3 Setting up the standard contract for the provision of telecommunications services by issuing the NBTC Notification on the Standard Contract for the Provision of Telecommunications Services (Mobile Phone Service), which consists of post-paid mobile service and pre-paid mobile service. The standard contract will enable consumers to understand the legal right to use the telecommunications services (mobile phone service).

5.4 Setting up guidelines for consideration of internet service provision conditions in terms of entry fee collection and the installation fee for devices by issuing the Office of the NBTC's Notification on Guidelines for Consideration of Internet Service Conditions in terms of Entry Fee Collection and the Installation Fee for Devices to ensure that the users are provided with the fair services and the licensees are able to operate their businesses under the market mechanism and be in line with the costs of service provision.

5.5 Setting up the preventive guidelines in case of online "Pokemon Go" game by inviting mobile operators consisting of Advanced Info Service Public Company Limited, Total Access Communication Public Company Limited, True Corporation Public Company Limited, CAT Telecom Public Company Limited and TOT Public Company Limited, and Department of Children and Youth, Ministry of Social Development and Human Security, to discuss the guidelines, and the meeting agreed that

1) The areas of game playing shall be restricted for dangerous locations such as railroadside, riverside, religious places and historic sites, official places, and private areas, etc.

2) Mobile operators shall provide cooperation to publish a guideline manual for playing the game by dividing into parential guide and children guide.

3) Service providers or mobile operators shall protect consumers in case of purchasing items in the online game "Pokemon Go" by alerting the users in case that playing the game may generate more additional costs and making the consumers understood in order to prevent the bill shock.

5.6 Having disseminated knowledge in telecommunications services to people by organizing seminars, trainings, and other activities as follows:

1) The seminars to enhance knowledge of consumers in telecommunications services on "Electromagnetic radiation from base stations of mobile phone system can cause an impact on health or not", to enhance knowledge of the public on the impact of electromagnetic diffusion from mobile phones base station on the safety of human health in 5 regions. The objectives of the activities were to explain the facts about the installation of base stations of mobile phone systems, licensing to operate, level of radio frequency emitted by base stations, and impact on human health. The forums were held in Nakhon Si Thammarat, Song Khla and Nakhon Ratchasima.

2) The training on "Electromagnetic Field and the Radio Frequency" to local administrative organizations and public agencies in Lampang, as part of the mission to build knowledge and understanding of the criteria and measures to regulate the safety of human health from the use of radiocommunications devices.

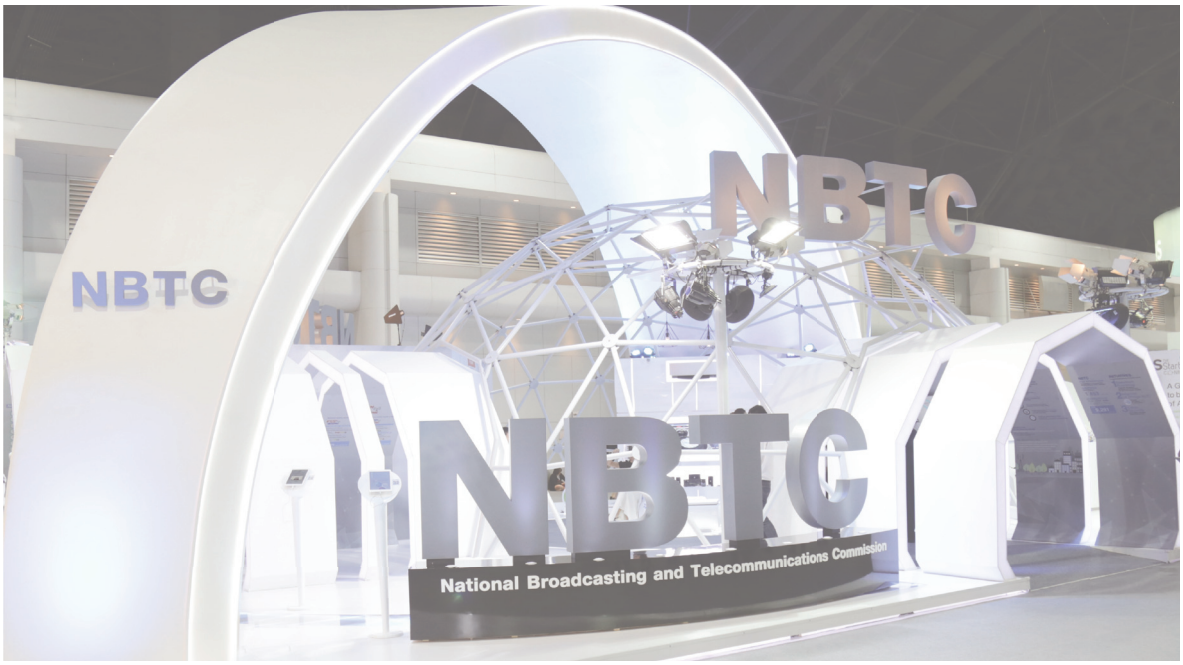
3) The workshops for promoting and developing the youth network mechanism for the consumer protection in telecommunications services under the "Thai Telecom...Go Together", with the objectives to enhancing knowledge and understanding of the youth on the consumers' rights in telecommunication services and other issues relating to the use of telecommunications services so that they can further disseminate knowledge to the people in their areas. The workshops were held in Suphanburi, Chaiyaphum, Phayao and Phang Nga.

4) The seminar to enhance knowledge and understanding and exchange experiences on dispute resolution in telecommunications services to the licensees and people involved.

5) The "Telecommunications Commission Meets the General Public Forum", Year 4, with the objectives to explaining the mission of the NBTC, roles and responsibilities in regulating telecommunications services to the public as well as to hearing problems and recommendations from the public. All information gathered from the forum will be used to improve the operation of the TC telecommunications resources management of the country. The forums were held 4 times in Burirum, Krabi, Prachuap Khiri Khan and Chiangmai, respectively.

6) Training on "the enhancement of citizen network leaders' potentials on the protection of consumers' rights in telecommunications services" to promote the potential of citizen network leaders from 77 provinces and build knowledge and understanding on the consumers' rights protection in the telecommunications services so that they can effectively disseminate the knowledge gained to people in their areas and communities. The Participants to the meeting were composed of the leaders from 74 provinces.

5.7 Improving and developing the website for complaints receipt and consumer protection in the telecommunications services to be available in various languages such as Thai, English, Khmer, Lao, and Myanmar so that the users both Thais and foreigners are able to access to the information on consumer protection in telecommunications services such as news on activities, information relating to complaints, etc., In addition, the website can be used as a channel for filing complaints by the users.




NBTC
National Broadc



3

Major Performance of the Office of the NBTC

The Management of the Office of the National Broadcasting and Telecommunications Commission

In 2016, the Office of the NBTC had performed tasks under the power and responsibility prescribed by the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) such as the strategic plan and organization management, the follow-up and monitor of the use of spectrum in the broadcasting, television and telecommunications services, complaints receipt and consideration on in broadcasting, television, and telecommunications services, etc. The major contents are as follows:

1. Strategy and Organization Management

In 2016, the Office of the NBTC had operated by focusing on building the organization of transparency and the result of the operation is as follows:

1.1 Building the organization of transparency and performing their mission with adhering to the good corporate governance continuously through the issuance of the order to the officials in the positions of Deputy Secretary-General of the NBTC, Principal Expert, Executive Director, Executive Director of the Regional Office of the NBTC, Expert, Director of the Sub-regional Office of the NBTC, and Division Director of the Supply and Asset Management Bureau, submit a declaration listing of all owned assets and liabilities in the form of the Office of the National Anti-Corruption Commission (NACC) to the Office of the NBTC within 180 days starting from 1 October 2016. Although the submission of a declaration listing of all owned assets and liabilities required by the Office of NACC has not been enforced on the executives in the positions lower than the Secretary-General of the NBTC, they have provided their cooperation in submitting such assets as well.

1.2 Having signed a Memorandum of Cooperation with the Office of NACC for being the Organization of Transparency and the good model of action.

1.3 Developing the quality management system towards international standard ISO 9001 which having started the pilot project in 2013 and extended to other 7 bureaus in the Telecommunications Affairs in 2016. However, the project's goal in 2017 is to have all bureaus of the Office of the NBTC participated in the quality management system towards international standard ISO 9001.

1.4 Improving the performance (5S) of the Office of the NBTC in 2016 in order to encourage self-development, work development, working place development and promoting the unity of the personnel. The Office of the NBTC also appointed a Working Group for the Improvement of the Performance (5S) and the working group will have an assessment of the performance of the Office of the NBTC on a regular monthly basis to ensure that the Office of the NBTC has met the standards prescribed.

1.5 Having carried out the procurement process by applying mutatis mutandis the Regulation of the Office of the Prime Minister on Procurement B.E. 2535 (1992) and its amendment to the procurement process of the NBTC. As a result, the number of procurement by special arrangement could be reduced to 13 items, only in cases of urgency and inevitability, at the amount of 37.21 million baht. Those cases were such as the project on the exhibition arrangement to disseminate knowledge on spectrum auction in the frequency bands of 1800 MHz and 900 MHz to the public, the implementation of the project to build knowledge and understanding of the public regarding the transition to digital television signal transmission via radio broadcasting stations, the publication and distribution of the Royal Guidance and Royal Speech of His Majesty King Bhumibol Adulyadej in the occasion of the New Year festival 2017, etc.

The rest procurement by special arrangement was made for the existing contractors in order to continue their service provision, or the public relations where there was only one service provider. In addition, measures to accelerate and follow-up the implementation and budget expenditure has been set up in order to supervise and follow-up the implementation and budget expenditure to be in line with the plans as set, resulting in effective expenditure and more revenues to be delivered to the state in the year 2016.

2. Personnel Development for the Mission of the Office of the NBTC

2.1 Developing personnel for the mission of the Office of the NBTC through setting up the Knowledge Management (KM) project in order to build knowledge body of staffs and employees of the Office of the NBTC for their better understanding on the organization's mission and to encourage self-learning and creativity to further apply to their jobs.

2.2 Having carried out the project on knowledge sharing to brothers and sisters of the Office of the NBTC in 2016 for 14 times in the Headquarters and 4 times in the regional areas with 1,075 participants.

2.3 Having granted scholarship to the officials of the Office of the NBTC including personnel outside the organization who have proper qualification in the fields related to the core mission of the Office of the NBTC and in the shortage areas of personnel such as Master degree programs in Electrical Engineering, Telecommunications Engineering, Economics, and Policy on Governance, etc.

2.4 Organizing specific trainings for the officials of the Office of the NBTC to improve skills, knowledge and capability of personnel in working, as well as to create new knowledge body of the officials and employees of the Office of the NBTC so that they can further apply the knowledge gained to the development of the organization, society and the nation.



Follow-Up and Monitoring of the Spectrum Broadcasting, Televisions and Telecommunications Services

In 2016, the Office of the NBTC by the Office of the NBTC Region 1-4 and the 17 Office of the NBTC Sub-region throughout the country had followed-up and monitored the use of spectrum in the broadcasting and telecommunications services to ensure that the spectrum has been worthly used for the utmost benefit and without interference, and to control the use of radio spectrum to be in line with criteria, provisions and conditions of the license, including having technical measured of radio frequency propagation as requested or coordinated by both domestic and international agencies under the ISO 9001:2008, as well as joining with military and police officers to search and arrest the offenders according to the Announcement of the National Council for Peace and Order (NCPO) as follows:

1. Monitoring radio frequency possession

Having monitored the use of spectrum by using the monitoring devices and equipment both in the working places and the remote locations, and monitoring by using remote sensing devices in the frequency band of 30 MHz - 3 GHz to control the use of radio frequency to be in accordance with criteria, terms and conditions prescribed by the Office of the NBTC and set up database of the possession of radio frequency channels to be used for frequencies allocation efficiently, both in case of new frequency allocation channel and sharing frequency channel, refarming of unused frequency, and being a preliminary data for monitoring the unauthorised frequency, data analysis, expansion of the result of the monitor of frequency possession, and suspension of the acts of violators. The result of spectrum monitoring is as shown in Table 29 and Chart 7.

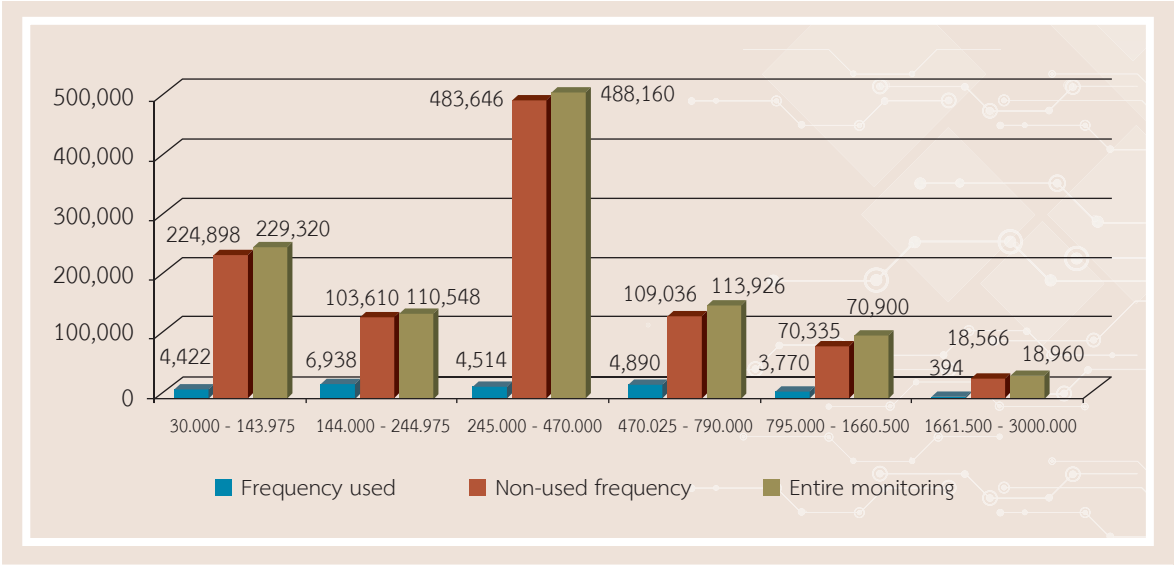
Table 29: Result of the monitor of radio frequency possession in the frequency band of 30 MHz - 3 KHz

Frequency (MHz)		Frequency channel	Frequency used monitoring			Volume of frequency used (%)
Beginning	Ending		Entire monitoring	used	Non used	
30.000	143.975	84,660	229,320	4,422	224,898	1.92
144.000	244.975	57,180	110,548	6,938	103,610	6.27
245.000	470.000	271,200	488,160	4,514	483,646	0.92
470.025	790.000	49,053	113,926	4,890	109,036	4.29
795.000	1,660.500	42,540	70,900	3,770	70,335	5.31
1,661.500	3,000.000	11,850	18,960	394	18,566	2.07
Total			1,034,841	24,928	1,010,091	

Remarks: Data as of January – October 2016

Source: Spectrum Management and Regional Affairs, the Office of the NBTC

Chart 7: Result of the monitor of radio frequency possession in the frequency band of 30 MHz - 3 KHz



Source: Spectrum Management and Regional Affairs, the Office of the NBTC

2. Monitoring radio frequency diffusion standard

Conducting technical measurement of the diffusion of radio frequency as requested or coordinated by domestic and international agencies on the 2G/3G/4G mobile base stations, radio broadcasting stations, high power TV stations, radio broadcasting station (trial operation), and digital TV stations in compliance with ISO 9001:2008 to control the diffusion of radio frequency of the radio frequency transceiver stations of the broadcasting, television and telecommunications operators to be under the standards and conditions attached to the license. The result of the monitor during January – November 2016 is as follows:

2.1 Having monitored the radio frequency diffusion standard in telecommunications services by measuring signals and strength level of electromagnetic fields diffusing from the 2G and 3G mobile base stations for 593 stations. The measurement result, when compared to the safety standard of electromagnetic radiation on human under the provisions of telecommunications laws issuing by the Office of the NBTC or equivalent to the standard of International Commission on Non-Ionizing Radiation Protection (ICNIRP) for those who have received the electromagnetic wave from living nearby the tower, had shown that the signal strength level is much lower than the standard. This indicates that the strength level of the electromagnetic field diffusing from the measured radiocommunications devices is complied with the safety standard on human health from the use of radiocommunications, limitations and measurement methods for the receipt of electromagnetic radiation of human in the frequency band of 9 KHz - 300 GHz.

2.2 Monitoring technical standards on radio frequency propagation in the broadcasting and television services of 4,115 radio broadcasting stations (trial operation) of totally 4,377 stations that have signed the MOU with the Office of the NBTC Sub-region, and it is found that 3,819 stations have met the requirement of standard while other 296 stations failed to meet the standard.

3. Monitoring and resolving radio frequency interference

To eliminate radio frequency interference between different radiocommunications networks to be able to effectively communicate, including the elimination of interference during the use of radio frequency, resolving interference of the radio frequency in the broadcasting, television, telecommunications and radiocommunications services as well as the monitor and resolution of frequency interference in aeronautical service, the Office of the NBTC had monitored and resolved the problems of frequency interference with the result as shown in Table 30 and Chart 8.

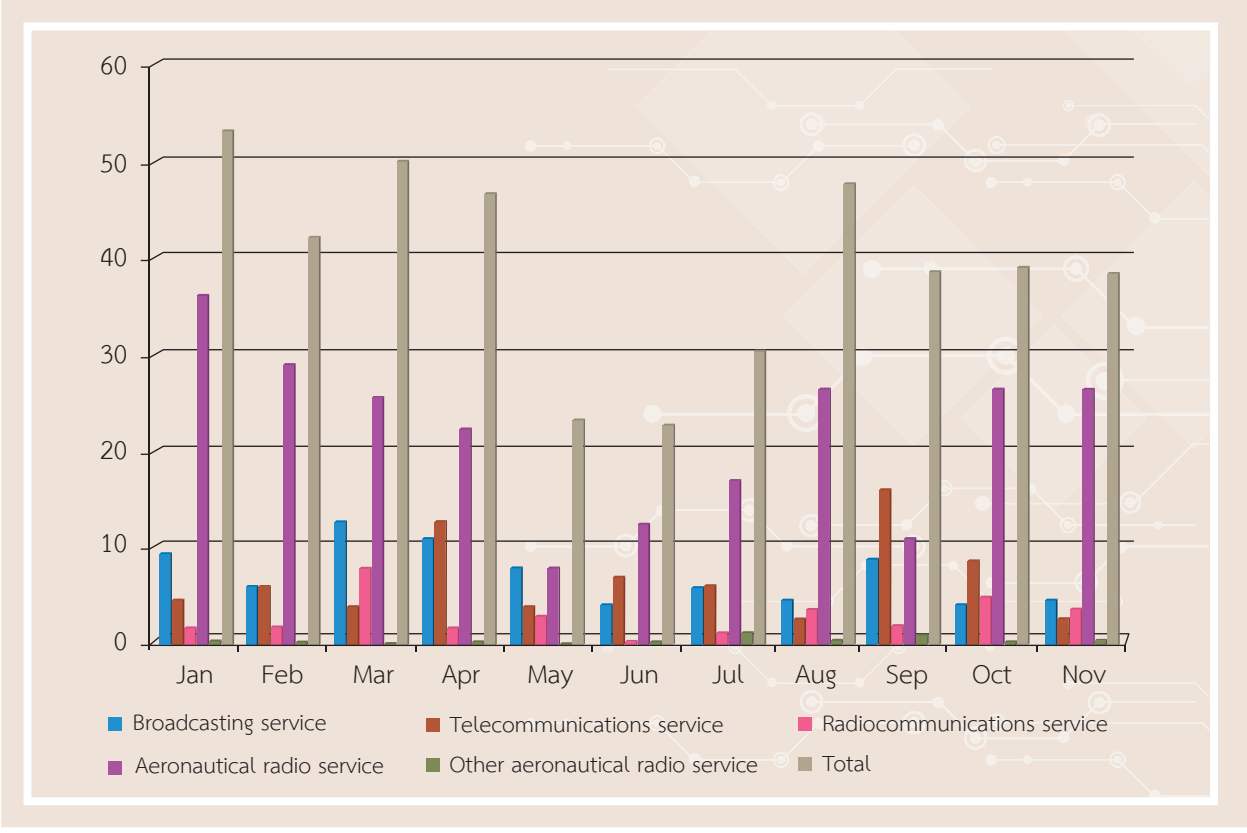
Table 30: Comparison of the resolution on radio frequency interference in 2016

Service	In the year 2016													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total	Percent
Broadcasting service	10	6	13	11	8	4	6	7	9	4	5	N/A	83	20.44
Telecommunications service	5	6	4	13	4	7	6	10	16	9	3	N/A	83	20.44
Radiocommunications service	2	2	8	2	3	0	1	6	2	5	4	N/A	35	8.62
Aeronautical radio service	37	30	26	23	8	13	17	27	11	23	27	N/A	242	59.61
Other aeronautical radio service	0	0	0	0	0	0	1	0	1	0	0	N/A	2	0.49
Total	**54**	**44**	**51**	**49**	**23**	**24**	**31**	**50**	**39**	**41**	**39**	**N/A**	**445**	**109.61**

Remarks : Data as of January – November 2016

Source: Spectrum Management and Regional Affairs, the Office of the NBTC

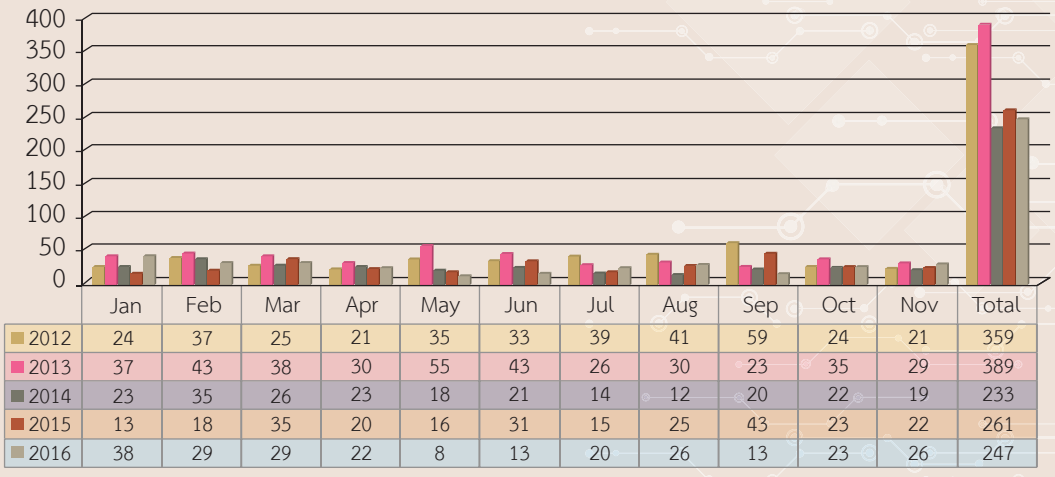
Chart 8: Comparison of the number of monthly resolution on radio frequency interference in 2016



Source: Spectrum Management and Regional Affairs, the Office of the NBTC

From the monitor of frequency interference, it is found that the highest number of radio interference was in the aeronautical radio service because of the use in the same frequency or adjacent to each other, and spurious frequency. The Office of the NBTC had given the priority to the resolution of the aeronautical radio interference problems and cooperated with the Aeronautical Radio of Thailand Company Limited for the notification of frequency interference so that the Office of the NBTC could monitor and suspend the use of the frequency. The operation on monitoring the radio frequency interference in aeronautical radio service in 2016 is as shown in Chart 9.

Chart 9: Result of the monitor of frequency use



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total
2012	24	37	25	21	35	33	39	41	59	24	21	359
2013	37	43	38	30	55	43	26	30	23	35	29	389
2014	23	35	26	23	18	21	14	12	20	22	19	233
2015	13	18	35	20	16	31	15	25	43	23	22	261
2016	38	29	29	22	8	13	20	26	13	23	26	247

Source: Spectrum Management and Regional Affairs, the Office of the NBTC

4. Monitoring the unauthorized frequency

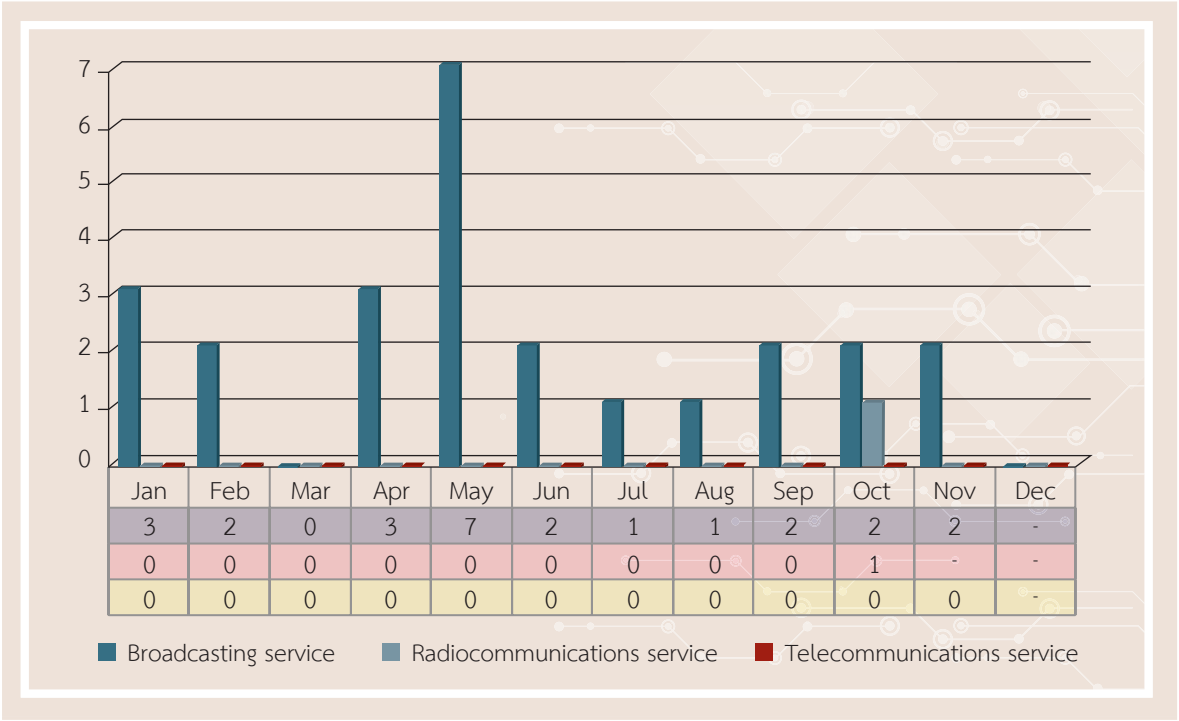
Having monitored the use of frequency in broadcasting, television, telecommunications and radiocommunications services in order to suspend the use of unauthorized radio frequencies, reduce the number of illegal radio frequency use violators, and prevent the interference between different radiocommunications networks to be able to effectively communicate, the result is as shown in Table 31 and Chart 10.

Table 31: Result of Unauthorized use of frequency in 2016

Services	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Broadcasting service	3	2	0	3	7	2	1	1	2	2	2	-
Radiocommunications service	0	0	0	0	0	0	0	0	0	1	-	-
Telecommunications service	0	0	0	0	0	0	0	0	0	0	0	-
Number of frequencies	3	2	0	3	7	2	1	1	2	3	2	-

Source: Spectrum Management and Regional Affairs, the Office of the NBTC

Chart 10: Monitoring of unauthorized frequency in 2016



Source: Spectrum Management and Regional Affairs, the Office of the NBTC

5. Searching and arresting according to the law

The Office of the NBTC had cooperated with military and police officers to search and arrest the unlicensed radio broadcasting stations according to the Office of the NBTC's Notification on Prohibition on broadcasting of the unlicensed radio broadcasting stations (trial operation), the unauthorized radio broadcasting stations for trial operation, and the radio broadcasting stations that failed to comply with the licensing conditions given by the NBTC. Details are as shown in Table 32-33.

Table 32: Result of searching and monitoring the unauthorized radio broadcasting stations

Office of the NBTC	No. of unauthorized radio broadcasting stations	Having license for installation of radio broadcasting station for temporary period	Duplication of stations	Having used in other services	unauthorized radio broadcasting stations (rights)	Case prosecuted/ terminated	process	Results		Prosecuted			In process			Removed
								Broadcasting	Non-broadcasting	Wire + Antenna	Mast	Total	Wire + Mast	Mast	Total	
Subregion 1	163	10	12	0	141	132	9	0	141	4	0	4	0	0	0	137
Subregion 2	308	1	13	11	283	187	96	0	283	2	2	4	1	1	2	277
Subregion 3	122	0	6	0	116	68	48	0	116	0	0	0	0	0	0	116
Subregion 4	54	0	0	7	47	32	15	0	47	0	0	0	0	0	0	47
Subregion 5	86	1	0	0	85	85	0	0	85	0	0	0	0	0	0	85
Subregion 6	237	0	12	10	215	112	103	0	215	5	1	6	3	3	6	203
Subregion 7	101	0	0	7	94	41	53	0	94	1	1	2	2	5	7	85
Subregion 8	128	0	14	6	108	62	46	0	108	3	1	4	1	3	4	100
Subregion 9	123	0	2	0	121	81	40	0	121	0	0	0	0	0	0	121
Subregion 10	144	0	2	0	142	139	3	0	142	0	0	0	0	0	0	142
Subregion 11	17	0	0	0	17	17	0	0	17	0	0	0	0	0	0	17
Subregion 12	55	1	0	5	49	47	2	0	49	1	4	5	0	0	0	44
Subregion 13	11	0	0	1	10	10	0	0	10	0	3	3	0	0	0	7
Subregion 14	53	1	0	6	46	45	1	0	46	0	0	0	0	0	0	46
Subregion 15	21	1	0	0	20	20	0	0	20	1	0	1	0	0	0	19
Subregion 16	28	1	2	3	22	20	2	0	22	0	0	0	0	0	0	22
Subregion 17	139	0	2	1	136	62	74	0	136	0	2	2	0	0	0	134
Total	1,790	16	65	57	1,652	1,160	492	0	1,652	17	14	31	7	12	19	1,602
7 Dec 16	Percent				100.00	70.22	29.78	0.00	100.00	1.03	0.85	1.88	0.42	0.73	1.15	96.97

Source: Spectrum Management and Regional Affairs, the Office of the NBTC

Table 33: Result of the compliance with the MOU on Broadcasting and the Announcement of NCPO of the radio broadcasting stations requesting for broadcasting operation in trial operation from 21 April 2015 – 30 November 2016

Office of the NBTC	No. of stations in the register				No. of stations that were suspended the broadcasting for temporary period				No. of stations that are able to broadcast				21 Apr-31 Dec 15	1 Jan - 15 Nov 16	16-30 Nov 16	Total	No. of stations examined Compared with No. of authorized stations (percent)
	Commercial service	Public service	Community service	Total	Commercial service	Public service	Community service	Total	Commercial service	Public service	Community service	Total					
Subregion 1 Bangkok	423	112	57	592	90	47	34	171	333	65	23	421	195	5	7	**207**	49.17
Subregion 2 Ubon Ratchathani	379	107	30	516	37	31	12	80	342	76	18	436	347	50	3	**400**	91.74
Subregion 3 Lampang	194	56	25	275	15	10	13	38	179	46	12	237	224	2	0	**226**	95.36
Subregion 4 Song Khla	117	60	21	198	18	15	11	44	99	45	10	154	102	23	2	**127**	82.47
Subregion 5 Chanthaburi	256	74	31	361	53	24	17	94	203	50	14	267	228	29	2	**259**	97.00
Subregion 6 Khon Kaen	446	74	55	575	44	8	19	71	402	66	36	504	252	71	6	**329**	65.28
Subregion 7 Nakhon Ratchasima	316	101	41	458	36	26	17	79	280	75	24	379	218	122	5	**345**	91.03
Subregion 8 Udon Thani	354	77	37	468	40	12	12	64	314	65	25	404	229	111	4	**344**	85.15
Subregion 9 Chiangmai	189	56	41	286	22	7	20	49	167	49	21	237	179	27	0	**206**	86.92
Subregion 10 Pitsanulok	413	91	27	531	41	16	8	65	372	75	19	466	325	50	1	**376**	80.69
Subregion 11 Phuket	95	15	7	117	18	1	3	22	77	14	4	95	88	11	0	**99**	104.21
Subregion 12 Nakhon Si Thammarat	144	32	16	192	32	6	8	46	112	26	8	146	125	16	0	**141**	96.58
Subregion 13 Ranong	88	9	8	105	16	2	5	23	72	7	3	82	64	12	5	**81**	98.78
Subregion 14 Chumporn	113	33	13	159	19	10	9	38	94	23	4	121	99	1	0	**100**	82.64
Subregion 15 Suphunburi	181	70	22	273	28	19	13	60	153	51	9	213	97	27	1	**125**	58.69
Subregion 16 Prachinburi	115	44	7	166	16	10	2	28	99	34	5	138	95	32	0	**127**	92.03
Subregion 17 Chiangrai	189	36	27	252	21	6	13	40	168	30	14	212	111	37	0	**148**	69.81
Total	4,012	1,047	465	5,524	546	250	216	1,012	3,466	797	249	4,512	2,978	626	36	**3,640**	80.67
Percent	100.00				18.23				81.77								

Source: Spectrum Management and Regional Affairs, the Office of the NBTC

6. Monitoring television and radio contents

The Office of the NBTC has established the center for monitoring the illegal contents on radio television and social media since 2014 onwards. The center has divided its mission in monitoring into 3 main tasks as follows:

6.1 Monitoring of television and radio contents consisting of 272 channels of satellite stations which can record contents up to 90 days. The follow-up and monitoring focused on the issues which committed lese Majesty or implicated the institution, the presentation of news which may be the provocation, the agitation for disharmony, and the political issues that caused the disorder. When the center found these issues, it will deliver the issues to the relevant bureaus of the Office of the NBTC such as the Content Regulation and Announcer Development Bureau, in order to present the issues to the Sub-committee on Broadcasting Services for consideration and further submit to the working group on the online media of the NCPO.

In 2016, the Office of the NBTC had monitored satellite stations such as Bright TV, Suvarnabhumi, 1TV, New Sky, News 1, Hot TV, Voice TV, 13 Siam Thai, Media Channel, Boon Niyom TV, Five Channel, 24 TV, Peace TV, Asia Update, Piangdin station, and Spring News, etc., and 5 radio broadcasting stations such as FM 96.5 JS 100, FM 100.5, FM 101, etc., in which the monitoring will be conducted 3 times a day. The Content Monitoring Center had already presented 335 reports on television content monitoring and 1,005 radio content monitoring reports to the Content Regulation and Announcer Development Bureau for proposing to the Sub-committee on Broadcasting Service respectively, including having coordinated and provided support for the supply and delivery of video files to the requested internal Office of the NBTC for their additional monitoring for 18 reports.

6.2 Having monitored the advertisement on TV and radio by using the system designed for monitoring advertising conducting in exaggerated way or unauthorized products advertisings, and excessive advertising time on 40 satellite station channels and 40 radio channels, which can be recorded up to 60 days backwards. In 2016, the Content Monitoring Center had delivered 968 advertising monitoring reports to the Broadcasting Consumer Protection Bureau for reviewing and further legal action.

6.3 Monitoring online media, the Office of the NBTC has joined the operation with the Technology Crime Suppression Division and Department of Special Investigation (DSI) to monitor and analyze online data. In 2016 (14 October - 30 November 2016) the Office of the NBTC had found 65 reports of the target committing offenses or related to the violation of Article 112. In addition, the Office of the NBTC had cooperated with the National Council for Peace and Order and the Technology Crime Suppression Division to investigate and receive the report on websites' URL that have provided inappropriate contents by using the online media control system during 1 January - 30 November 2016 for 6,577 URLs, among those, 5,283 URLs could be successfully blocked.

Complaints Receipt in the Broadcasting, Television and Telecommunications Services

In 2016, the Office of the NBTC had carried out the mission on complaints receipt and consideration of consumers in the broadcasting, television and telecommunications services as follows:

1. Complaint receipt

The Office of the NBTC has established the CALL CENTER 1200 since 2005 with the purpose to assist the mission on disaster notification. Later on, the role of CALL CENTER 1200 has been improved to information service provision and be the complaint receipt center from users in broadcasting and television services. At present, the CALL CENTER 1200 has been developed to be able to support a variety of works in different situation with a knowledge database to support the service provision of call agents. The Office of the NBTC has also integrated the working system between the internal and external operational units through web service, as well as provided additional channels for communication to facilitate the people and users such as e-mail, social contract, and Mobile Application (Mobile NBTC 1200), etc.

In 2016, the number of complaints filing through CALL CENTER 1200 was 5,000 over issues and the number of inquiries from the people was 60,068 issues. The top 3 inquiries were 19,877 issues of digital terrestrial television service, 16,009 issues of Mobile Number Portability service, service charge calculation, prepaid mobile SIM card registration, and 4,930 issues of internet services such as the cancellation of the internet service before the termination of contract, etc.

2. Complaints handling and resolution

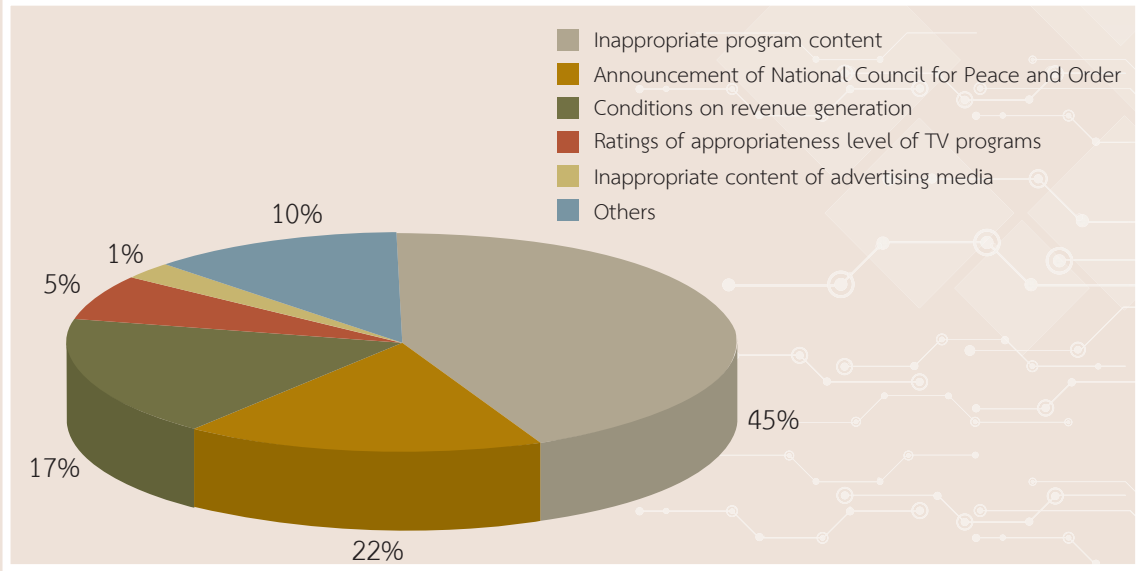
2.1 Complaints handling in broadcasting service

(1) The complaints handling on program chart and program content in broadcasting and television services

In 2016, there was totally 79 complaints consisting of 41 complaints on digital TV, 18 complaints on radio broadcasting in trial operation, 13 complaints on Cable TV and Satellite TV systems, 4 complaints on radio (existing operators) and 3 complaints on other issues.

All complaints can be categorized into 6 main issues: 1) complaints related to inappropriate program content which have been considered according to the legal framework of Section 37 of the Broadcasting Business Act B.E. 2551 (2008) 2) program content which failed to meet the requirement of the Announcement of the National Council for Peace and Order No.97/2014 regarding the provision of cooperation to support the operation of the NCPO and the dissemination of information to the public and the Announcement of the NCPO No. 103/2014 regarding the Amendment to the Announcement of the NCPO No. 97/2014 3) failure to comply with the conditions for revenue generation according to the NBTC Notification on Licensing Criteria and Procedures for Radio or Television Broadcasting Services B.E. 2555 (2012) 4) ratings of appropriateness level of TV programs 5) inappropriate content of advertising media, and 6) other issues such as programs proportion, presentation of content had not been in accordance with the practical guideline in case of the pass away of His Majesty King Bhumibol Adulyadej. Details are as shown in Chart 11.

Chart 11: Complaints on program chart and program contents



Source: Content Regulation and Announcer Development Bureau, the Office of the NBTC

From the total 79 complaints on program chart and program contents, most complaints was filed on inappropriate program content or accounting for 45 percent, and the least complaints was filed on inappropriate content of advertising media or accounting for 1 percent.

(2) The operation relating to complaints and comments/suggestion on the action which is considered to be the exploitation of consumers in broadcasting and television services

The Office of the NBTC had carried out the complaints according to the process under the provision of the NBTC Notification on Determination of Procedure and Duration for the Consideration of Request or Complaint in Broadcasting and Television Services and the NBTC Notification on the Action which is considered as Consumers' Exploitation in Broadcasting and Television Services B.E. 2555 (2012). The number of complaints and comments/suggestions was totally 202 issues. Details are as shown in Table 34.

Table 34: Statistic of complaints and comments/suggestions relating to the action which is considered as consumers' exploitation

Type of service	No.	Resolved		In Process	
		No.	Percent	No.	Percent
Television service					
1. Digital TV					
1.1 Program channel	6	4	66.67	2	33.33
1.2 Devices/Signal receipt	9	4	44.44	5	55.56
2. Subscription service					
2.1 Network					
- Satellite box	176	157	89.20	19	10.80
- Cable	4	3	75.00	1	25.00
2.2 Program channel	4	3	75.00	1	25.00
Total	**199**	**171**	**85.93**	**28**	**14.07**
Comments/Suggestion					
1. Advertising duration	1	1	100.00	-	-
2. Officers' service improvement	2	2	100.00	-	-
Total	**3**	**3**	**100.00**	**-**	**-**
Grand total	**202**	**174**	**86.14**	**28**	**13.86**

Remarks: Data as of 1 October 2015 – 30 September 2016 according to the NBTC Notification on Determination of Procedure and Duration for the Consideration of Request or Complaint in Broadcasting and Television Services which has taken more than 2-3 months including the operating duration under the procedure and during the period there was no complaints in the broadcasting service.

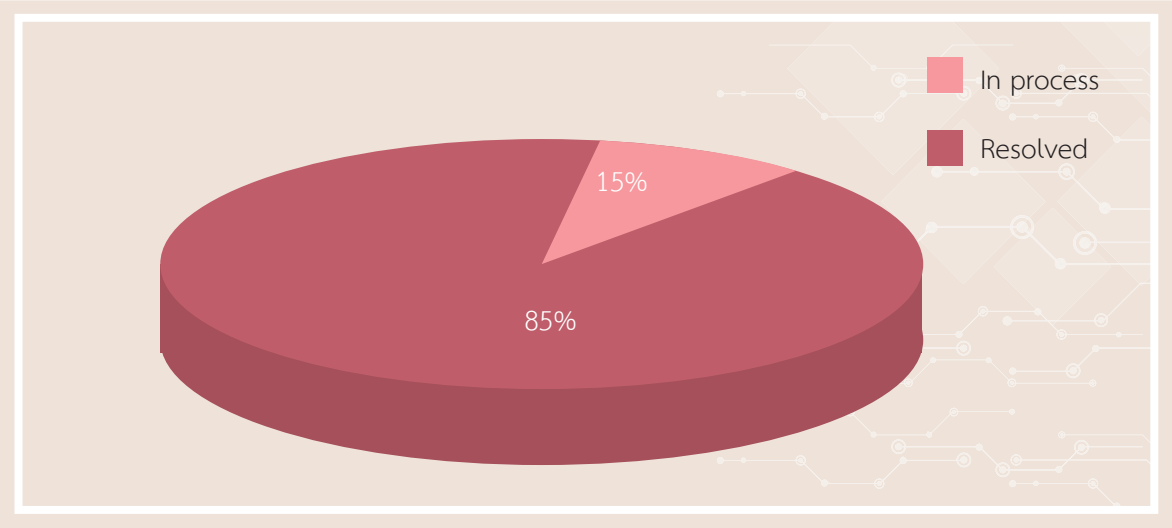
Source: Broadcasting Consumer Protection Bureau, Office of the NBTC

The 202 complaints and comments/suggestions can be divided into the complaints in television service for 199 issues which mostly concerned with the cancellation of services, change of terms of service without notifying consumers in advance not less than 30 days, and failure to return the prepaid service charges (such as satellite equipment payment, advance payment for monthly package, etc.) to consumers within 30 days as required by the law, and the comments/suggestions for 3 issues. The 174 complaints were resolved/completed, or accounting for 86.14 percent.

2.2 Complaints handling in telecommunications service

2.2.1 Having resolved complaints in telecommunications service or those who were suffered from the provision of telecommunications service according to the NTC Notification on Users' Complaint Procedure and Consideration, and later on the operation had been according to the complaints procedure prescribing in the NBTC Notification on Complaint Procedure and Consideration in Telecommunications Service B.E. 2559 (2016) which has been effective since 17 August 2016 onwards. This included the management of Customer Relationship Management (CRM) database which is the database management system of complaints in telecommunications services of the Office of the NBTC. The Office of the NBTC has always realized of the problems faced by the people and filed the complaints to the Office of the NBTC. Those complaints were such as standard and quality of services, service cancellation, billing errors, etc. The Office of the NBTC had also taken operation for a fair resolution for consumers and operators as well as dispute resolution. In 2016, the Office of the NBTC received totally 4,454 complaints in which 3,774 complaints were resolved, or accounting for 85 percent, and the rest of 680 complaints have been in process, or accounting for 15 percent. Details are as shown in Chart 12.

Chart 12: Complaints handling in telecommunications service



Source: Telecommunications Consumer Protection Bureau, Office of the NBTC

Moreover, the complaints can be categorized into type of services which had been received, and the top-three type of services rank was the mobile phone service, internet service and radiocommunications service respectively. The proportion of the complaints on mobile phone service, internet service, and radiocommunications service was 3,249 cases or accounting for 72.95 percent 916 cases or accounting for 20.57 percent and 126 cases or accounting for 2.83 percent of the total complaints (4,454 complaints) respectively. Details are as shown in Table 35.

Table 35: Complaints received categorized by type of service

Type of service	No. of complaint	Complaints status	
		Resolved	In process
Mobile phone	3,249	2,843	406
Internet	916	781	135
Installation of radiocommunications station/ tower	126	35	91
Fixed-line	117	72	45
Other services (such as money refund from true money card, disclosure of information, etc.)	46	43	3
Total	**4,454**	**3,774**	**680**

Source: Telecommunications Consumer Protection Bureau, Office of the NBTC



The complaints can be categorized into 12 issues, and the result of the operation in each issue is shown in Table 36.

Table 36: Complaints issues

Main issues	No. of complaints	Complaints status	
		Resolved	In process
Standards and quality of service	2,475	2,175	300
Cancellation of services	742	662	80
Billing errors	387	301	86
Supplementary service	271	215	56
Installation of radiocommunications/tower	123	34	89
Validity of service	92	77	15
Incorrect/incomplete information provision	27	23	4
Right of privacy and personal information	17	8	9
Mobile phone top up	9	8	1
Access to services	4	3	1
Service charge had not based on the maximum rates	3	2	1
Other complaints	304	266	38
Total	**4,454**	**3,774**	**680**

Source: Telecommunications Consumer Protection Bureau, Office of the NBTC

2.2.2 Having carried out the disputes mediation between telecommunications licensees and complainants in accordance with the NBTC Regulation regarding Disputes Mediation between Telecommunication Licensees and Complainants B.E. 2555 (2012), by focusing on the carrying out the disputes mediation as required by the complainant, promoting and disseminating the methods of alternative dispute resolution. The results are as follows:

(1) Having carried out the disputes mediation by coordinating and facilitating both parties for the disputes mediation (during 1 January – 7 November 2016), and there were 207 cases that both parties preferred to take the process of mediation parties and those cases can be divided into 4 cases as follows:

• The complaints that were taken into the mediation process for 7 cases and all cases were successfully mediated and the complaints were resolved (accounting for 100 percent). Those cases were the incorrect/incomplete information provision (Call Center) for 2 cases, having not received free phone set as advertised for 1 case, poor quality of signal for 1 case, quality of internet signal for 1 case, standard of internet service provision for 1 case, and other cases (such as the disclosure of complainant's personal information) for 1 case.

• The 70 complaints that both parties agreed to end the dispute before conducting the mediation

• The 122 complaints that any party refused to take the mediation process but preferred to take the complaints procedure according to the NTC Notification on the Procedure for Receipt and Consideration Complaints of Service Users, and later on the procedure of complaints receipt has been improved according to the NBTC Notification on the Procedure for Receipt and Consideration of Complaints relating to Telecommunications Service B.E. 2559 (2016), which has been effective since 17 August 2016 onwards.

• The 8 complaints that have been waiting for the declaration of another party's intent to take the mediation process.

It is found that the top 5 of complaint issues that the parties declared their intent to enter the mediation process consisted of the problems on MNP, cancellation of internet service, billing errors, mobile towers, and additional charge from internet service cancellation before the termination of the service contract, etc.

(2) Promoting and disseminating the alternative dispute resolution through mediation and building knowledge and understanding of the public about the dispute mediation in telecommunications services as follows:

• Workshop on the enhancement of knowledge and understanding and the exchange of experience regarding dispute mediation in telecommunications service for telecommunications licensees and relevant parties at Century Park Hotel in Bangkok.

• Workshop on the enhancement of knowledge and understanding and the exchange of experience regarding dispute mediation in telecommunications service for the new mediators of the Office of the NBTC and relevant parties at Splendid at Khao Yai, Nakhon Ratchasima.

• Projects for knowledge dissemination on dispute mediation in telecommunications service, through the cooperation with the Office of the NBTC Region 1 – 4 and the Office of the NBTC Sub-region 1 - 17, for consumers throughout the country.

Management of the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit

The Broadcasting and Telecommunications Research and Development Fund for the Public Interest (the Fund) has aimed its goal for the public benefit and the Management Committee of the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit (the Management Committee) has given importance to the disclosure of information related to the Fund management and allocation to the public. The Management Committee has to report the annual performance of the Fund to the NBTC and present to the Cabinet, the Parliament respectively. The performance report of the Fund has been presented based on the efficiency and effectiveness of the Fund in which the content is summarized as follows:

1. Direction and the operating mechanism of the Fund in 2016

During the year 2015 - 2016, the Management Committee has improved its policies on the Fund promotion and support as in the past years, the Fund had promoted and granted the financial support to the projects upon the request from those who have rights to apply for financial support from the Fund under the criteria for the projects type 1 or the projects initiated by the applicant according to the objectives of the Fund which focusing on the Fund allocation to be in line with the NBTC's policy and the Master Plans. The Management Committee also set up the Strategic Plan for the Annual Fund Allocation to determine the direction of the Fund allocation for the utmost benefit of the public, set up projects and Term of Reference (TORs), and select the qualified applicants for the funding.

2. Annual performance in 2016

2.1 The Fund Allocation

During the year 2015 - 2016, the Management Committee had announced its policy to promote and support the finance to projects type 2 or the projects required by the Management Committee in the year 2015 – 2016 for 3 times, totally 45 TOR at the total amount of 874.161 million baht, the first allocation was 789.661 million baht, the second allocation was 38.000 million baht and the third allocation was 46.500 million baht. The allocation was done by focusing on the objective 1: the provision of broadcasting, television and telecommunications services, and the objective 2: promotion on research and development in broadcasting, television, telecommunications, technology, spectrum, facilities, the disabled, the elderly or the underprivileged, and industries related.

2.2 Efficiency and effectiveness evaluation

2.2.1 Efficiency

(1) The Fund allocation for supporting projects implementation under Section 52 was efficiently as the number of the projects implemented had met the target set and helped reducing the expenditure for 10.2 percent. In the year 2015-2016 the Fund had announced the policy to promote and grant financial support to the projects type 2 for 45 TOR at the total amount of 874.161 million baht and selected the appropriate organizations which deserved to be promoted and supported. The Fund also reduced the budget to be suitable for the workload by taking into account the maximum benefit of the budget expenditure.

The Management Committee had proposed the result of consideration in the Fund promotion and support to those who applied for financial support to the NBTC for approval in the year 2015 - 2016 for 6 projects with the total budget of 84.000 million baht (data as of 30 November 2016). There were 12 eligible applicants and 18 ineligible applicants and the NBTC had approved to grant the financial support to the eligible applicants at the amount of 75.424 million baht or accounting for 10.20 percent of the approved budget as proposed by the Management Committee. Those projects can be divided into 2 groups as follows:

- The 5 projects with the same workload but the budget used less than the budget approved. The total amount approved by the NBTC was 54,000,000.00 baht, however, the Management Committee had considered and screened and allocated the funding to the grantees for totally 45,424,964.15 baht, as a result the budget of 8,575,035.85 baht or 15.9 percent of the budget approved could be reduced.

- A project with the same budget but having more workload which is the project to promote the production and broadcasting of digital television programs in category of children, youth and families, at the amount of 30,000,000 baht for the production of 30-minute television programs with not less than 80 episodes or an average of 375,000 baht per episode. The Management Committee has approved to support 4 grantees and negotiated with the grantees to produce the 30-minute television programs with no less than 145 episodes or an average of 206,897 baht per episode, resulting in a reduction of an average cost per episode to 168,103 baht per episode or 44.8 percent of the budget approved could be reduced. Details are as shown in Table 37.

Table 37: Summary of budget approved by the NBTC

Unit: baht

No.	Projects	Amount set by TOR (Baht)	Budget Approved	Details
1	Installation of ICT system and the provision of broadband service with Wi-Fi technology in the public area of temples Organization : Arsom Silp Institute of the Arts	10,000,000.00	9,245,728.05	Installation of ICT systems and provision of broadband internet services by Wi-Fi technology in the public area of temples as well as ICT application, and the use of copyrighted software
2	Enhancement of understanding of the disabled and the general people regarding the transition to digital TV Organization: Foundation of Research and Development of Quality of life of Persons with Disabilities, Thailand	5,000,000.00	4,437,322.10	1. Designing Universal Media to enhance knowledge and understanding of the disabled in the transition to digital TV and be able to use the service. 2. To enable the disabled to access information on the transition to digital TV and other information through digital TV equally
3	Project to promote the production and broadcasting of digital television programs in category of children, youth and families	30,000,000.00	30,000,000.00	Production of 30-minute TV programs with no less than 145 episodes

Table 37: Summary of budget approved by the NBTC (Continued)

Unit: baht

No.	Projects	Amount set by TOR (Baht)	Budget Approved	Details
	3.1 Project to promote the production and broadcasting of digital television programs in category of children, youth and families Organization : Mahidol University		8,366,929.00	- Production of 30 minute TV programs for children and the youth with no less than 40 episodes, dividing into 26 episodes of Physics for Fun and 14 episodes Animal Speak - Broadcasting through TV stations in digital system at least 2 channels for 12 months
	3.2 TV program on "Breeze under Basement" Organization : Foundation For Children		9,092,530.00	- Production of 30 minute TV programs for children and the youth with no less than 40 episodes Broadcasting on Channel 9 Family for 12 months
	3.3 Project on playground... creative media for children, youth and families Organization : Radio station of Chulalongkorn University		7,294,518.00	- Production of 30 minute TV programs for children and the youth with no less than 40 episodes - Broadcasting on True4u Channel or Channel 3 Family for 12 months
	3.4 Creation of TV program "Under the Roof, Starry Sky" for the development of the childhood organization : Rangsit University		5,246,023.00	- Production of 30 minute TV programs for children and the youth with no less than 25 episodes - Broadcasting on digital TV stations at least 1 channel for 6 months

Table 37: Summary of budget approved by the NBTC (Continued)

Unit: baht

No.	Projects	Amount set by TOR (Baht)	Budget Approved	Details
4.	Community TV Prototype Station	16,000,000.00	10,810,210.00	- Building the prototype of community TV stations in 4 regions. - Organizing trainings for enhancing knowledge and experiences in the development of the prototype of community TV station
	4.1 Prototype development of digital TV station, community service, in Ubon Ratchathani Organization : Sangsook Media Foundation		3,494,160.00	1. Live broadcasting at least 4 hours/week 2. Making tape recorder for broadcasting and re-run at least 4 hours a week.
	4.2 Research and development project on community TV station “Phayao TV” Organization : Phayao Community Media Association		3,389,050.00	1. Live broadcasting at least 4 hours/week 2. Making tape recorder for broadcasting and re-run at least 4 hours a week.
	4.3 Andaman Stability Community TV Organization: Raks Thai Foundation		3,927,000.00	1. Live broadcasting at least 4 hours/week 2. Making tape recorder for broadcasting and re-run at least 4 hours a week.

Table 37: Summary of budget approved by the NBTC (Continued)

Unit: baht

No.	Projects	Amount set by TOR (Baht)	Budget Approved	Details
5.	Research and development project for Near Real-time Captioning Organization: Thai Public Broadcasting Service	13,000,000.00	11,510,204.00	Promoting the disabled, the elderly and the disadvantaged people to be able to access the information through broadcasting service equally with the general people by setting up the Near Real-time Captioning will result in the encouragement of the implementation of the captioning tangibly.
6.	ICT Learning Center Volunteer for sharing knowledge to schools in rural remote areas through broadband network Organization: Triam Udom Suksa School	10,000,000.00	9,421,500.00	Developing the ICT Learning Center Volunteer by focusing on encouraging children and the youth to use the Center as a source for learning and producing innovative learning media for children and the youth in rural remote areas through video conference, video-on-demand, and website
	Total	**84,000,000.00**	**75,424,964.15**	

Source: Research and Development Fund Bureau, the Office of the NBTC

The projects in Table 37, No 3.1 are in the process of signing the Financial Grant Agreement which is expected to be implemented in early 2016.

(2) The effectiveness of disbursement was in a good basis and in 2016 it was able to be disbursed at the amount of 1,333.680 million baht, or accounting for 79.393 percent of the total target of disbursement budget of 1,679.801 million baht. The disbursed projects consisted of the projects type 1, which are the on-going projects in the year 2013 and 2014 that were already approved but the projects have still been in the process of implementation, and thus committed to the year 2015, which could be disbursed for 60.888 million baht or accounting for 66.18 percent of the total disbursement of projects type 1, the projects under the USO Plan (2013) which the disbursement can be done at the amount of 135.300 million baht or accounted for 52.19 percent, and the project for supporting the public in the transition to digital terrestrial television switch-over which the disbursement was totally 1,008.941 million baht or accounting for 84.08 percent. Details are as shown in Table 38.

Table 38: Expenditure of the Fund compared to the target

Unit: million baht

Details	Target	Disbursement	Percent
Project Type 1 (2013 - 2014)	92.000	60.888	66.18
Projects under the USO Plan (2013)	259.250	135.300	52.19
The project for supporting the public in the transition to digital terrestrial television switch-over	1,200.000	1,008.941	84.08
Safe and Creative Media Development Fund	128.551	128.551	100.00
Total	**1,679.801**	**1,333.680**	**79.393**

Source: Research and Development Fund Bureau, the Office of the NBTC

(3) Monetary management of the Fund has been in an efficient manner as the Fund had conducted the cash flow forecasting, according to the advance payment plan and the committed expenditure plan of the Fund, as necessary in the savings account, and invested the cash balance in commercial banks and specialized financial institutions in the country according to the Fund's Regulation regarding the collection, expenditure, accounting and accounting system B.E. 2555 (2012). At the end of the year 2016, the Fund has invested some cash for temporary period in form of a 3-month fixed-deposit account at the amount of 3,200.000 million baht and a 12-month fixed deposit account at the amount of 24,140.000 million baht, in which the Fund's consideration was based on the bank risk assessment criteria in terms of credit risk and liquidity risk, and received an average interest rate in the year 2016 of 1.74 percent of all deposit accounts, which is higher than an average interest rate of deposit account of commercial banks at 0.95 percent.

2.2.2 Effectiveness

The operation of the Fund has been effectively due to the achievement of a number of the objectives as follows:

(1) The implementation of the projects which received the financial support by the Fund during the year 2013 - 2016 have achieved the objectives under Section 55 of the Act on the Organization B.E. 2553 (2010) as they have an impact on the overall development of the country in various dimensions as follows:

- Dimension on economic development: The Fund has allocated budget for the researches and development in broadcasting, television, and telecommunications services, technology, facilities for the disabled, the elderly or the disadvantaged in various areas such as the research and development on the development of the prototype of digital terrestrial television signal transceiver, the research and development of intelligent satellite for amateur radio service, the development of the prototype of inexpensive Braille display for being used in computers, tablets and smart phones, and other researches. The result of the researches has brought about the direct benefits to economic system and industries in the broadcasting, television and telecommunications sectors. In long term, the researches promotion and support will help reducing the dependence on foreign technology, decreasing the cost of technology import from abroad, and stimulating more investment in the broadcasting, television, and telecommunications services including other industries related.

- Dimension on social development: the Fund allocation according to Section 52(1) help enable more people in remote rural areas to access to the broadcasting, television and telecommunications services and creating equality and reducing disparities in accessing information of the people such as reducing the burden of the public in the transition

to digital television viewing, the development of learning centers through information technology system in order to expand educational opportunities, the promotion and development of distance learning system in the remote areas through internet system, the design and delivery of small satellites for education, the establishment of the parents port to prevent the youth from consuming improper contents through new media, etc. In this dimension, the budget allocation has focused on the social development and encouraged the community to be strong and self-reliance.

- Dimension on human resource development: the support on projects implementation according to Section 52(3) help developing human resources in various areas such as the development of knowledge body among scholars, researchers, students, as well as the personnel development in the broadcasting, television and telecommunications services, and information technology in order to prepare the readiness of knowledge development, and creating opportunities for Thai human resource to be able to compete with other countries equally.

- Dimension on security and safety: the support on projects implementation according to Section 52(2) help developing the cyber security and safety system including research on spectrum use for disaster prevention. The main goal is to provide security in life and property of the people.

- Dimension on public operation support: adding up more objectives of the Fund on the financial promotion and support so that the Ministry of Finance can borrow some money from the Fund to be used for public services for the public benefits, according to the Announcement of NCPO No. 80/2014, which will also support the operation of the state for the public benefits in other sectors as well.

(2) The people of 8.72 million household are able to view a good quality of digital terrestrial television service in terms of the high resolution picture, a variety of content which containing knowledge and entertainment, and professional development in accordance with the government's purposes and Section 52 of the Act on the Organization B.E.2553 (2010).

(3) The financial status of the Fund has been constantly secure and fulfilled the objectives under Section 55 of the Act on the Organization B.E. 2553 (2010). The financial status of the Fund as of 30 November 2016 consisted of the total assets at the amount of 44,270.202 million baht, which was 8,046.521 million baht increased from the year 2015. The assets included current assets at the amount of 31,970.125 million baht and other assets at the amount of 12,300.077 million baht. Most current assets were bank deposits at the amount of 31,784.555 million baht while most other assets were the money borrowed by the Ministry of Finance at the amount of 12,300,000 million baht.

Financial stability in the year 2016 was in a good basis with high level of liquidity due to the current ratio was 249 : 1 (higher than accounting base line which defining not more than 1.5 : 1), and the total debt ratio at 0.12 : 1 (lower than accounting base line which defining not exceed 1.5 : 1). Although the total debt ratio had already included the commitments of the Fund at the amount of 26,273.831 million baht, the total debt ratio has still increased to 0.71 : 1 only. Details are shown in Table 39.

Table 39: Comparison of the financial statement of the Fund between the year 2016 and 2015

Details	million baht		Increase (Decrease)	
	2016 (30/11/16)	2015	Percent	million baht
Financial statement				
Cash at bank	31,784.555	31,903.681	(0.373)	(119.126)
Current assets	31,970.125	36,223.681	(11.742)	(4,253.556)
Total assets	44,270.202	36,223.681	22.213	8,046.521
Current liability	128.155	854.681	(85.005)	(726.526)
Total liability	5,113.309	6,735.681	(24.086)	(1,622.372)
Commitments	26,273.831	20,380.000	30.094	6,133.056
Cash flow statement				
Cash receipts	16,714.007	9,232.552	81.033	7,481.456
Cash disbursement	(16,833.133)	(4,575.276)	267.915	(12,257.857)
Cash receipts over disbursement (disbursement over receipts)	(119.126)	4,657.276	(102.558)	(4,776.402)
Cash balance at the end of the period	31,784.555	31,903.681	(0.373)	(119.126)

Table 39: Comparison of the financial statement of the Fund between the year 2016 and 2015 (Continued)

Details	million baht		Increase (Decrease)	
	2016 (30/11/16)	2015	Percent	million baht
Financial ratio				
Current ratio (:1)	249	42		
Debt Ratio (:1)	0.12	0.19		
Average return rate of the Fund (Percent)	1.74	2.23		
Average interest rate of commercial bank (Percent)	0.95	1.28		

Source: Research and Development Fund Bureau, the Office of the NBTC

2.3 The Fund's monetary management

The financial stability of the Fund is in a high level of security and the financial status as of 30 November 2016. The fund has a total cash balance at the amount of 31,784.555 million baht, decreasing during the year at 119.126 million baht due to the disbursement over receipts. All cash has been deposited in commercial banks and specialized financial institutions in the country with an average return of 1.74 percent per year. The financial status of the Fund as of 30 November 2016 consisted of the total assets at the amount of 44,270.202 million baht and the total liabilities at the amount of 5,113.309 million baht. In 2016, the Fund had total debt ratio at 0.12 : 1, the commitments at the amount of 26,513.056 million baht, and the current ratio at 249 : 1.

For the revenue collection to the Fund in the previous year, the Fund had total revenue of 16,714.007 million baht, which was the contribution by the telecommunications licensees according to the Plan for the Provision of Universal Basic Telecommunication Service and Social Service (USO) (2012 - 2016) at the amount of 13,784.555 million baht or 83.50 percent. The rest was the receipt of interest of the Fund and the money allocated by the Office of the NBTC and others at the amount of 2,759.926 million baht.

For the disbursement, the Fund had total disbursement of 16,833.380 million baht, which consisted of the disbursement for the projects under the Fund's objectives at the amount of 1,333.680 million baht, the disbursement for the borrowing of the Ministry of Finance at the amount of 14,300.000 million baht, and the rest of money to be delivered as the state revenue at the amount of 1,200.000 million baht.

3. The guidelines for operation in 2017

For the year 2017, the Management Committee had focused on the improvement of the operations of the Fund to keep up with the changing circumstances, and to ensure all sectors of the efficiency of the mission-driven mechanism of the Fund in the future, as well as to be able to allocate and manage the Fund for the utmost benefit. The guidelines for the operation improvement are as follows:

1) The issuance of the Master Plan on Research and Development in Broadcasting and Telecommunications Services in 5 years (2017-2021) and setting the annual strategic plan to be used as guidelines for the Fund's operation and allocation to be more efficient and support the needs of the broadcasting and telecommunications sectors.

2) Review and improvement of criteria, procedures and conditions of the Fund allocation including mechanism and methods for follow-up and assessment of the projects so that the operation on project analysis, screening and follow-up can be done faster and more efficient through the supply of and development of information technology system and communication for facilitating the Fund management and the operation of the Fund completely.

3) Planning and setting strategies for public relations, building knowledge and understanding of the people about granting financial support on researches for driving the broadcasting and telecommunications sectors.

4) Set up an annual operating calendar for being used as operating guidelines.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4

Report on Market Situation and Competition in Broadcasting, Television and Telecommunications Services in 2016

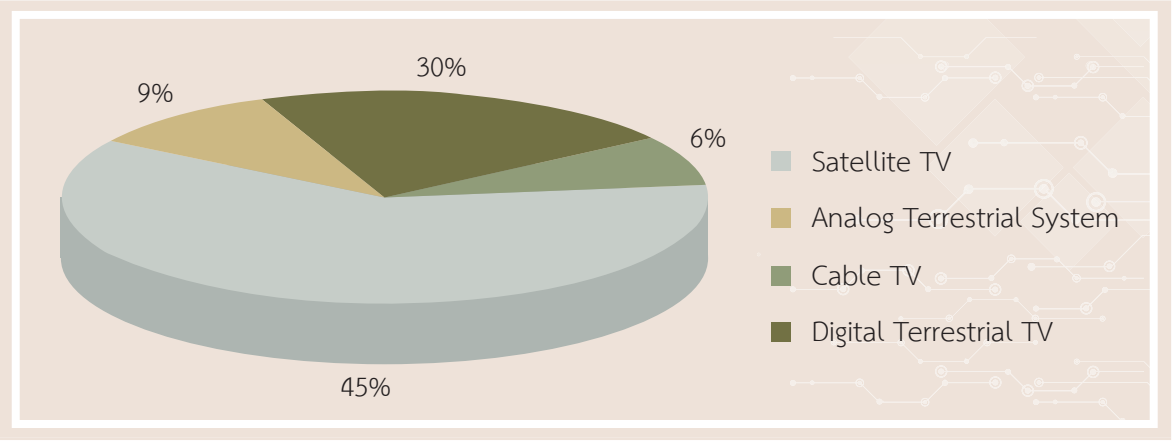
Report on Market Situation and Competition in Broadcasting, Television and Telecommunications Services in 2016

1. Market situation in broadcasting and television services in 2016[8]

1.1 Television market situation in 2016

1.1.1 Proportion of the access to Thai households of platforms for television viewing in 2016 according to the survey of the proportion of the access to Thai households of the broadcasting service under the broadcasting methods or platforms of television viewing of households in the country which consisted of the analog terrestrial television system (by using antenna only) or Set-Top-Box (STB) and the digital terrestrial television system or iDTV, or installation of cable TV and satellite TV for viewing television, it is found that[9] 9 percent and 30 percent of all households viewed television through analog terrestrial television and digital TV system respectively, while 6 percent of all households viewed television through cable TV, and 55 percent of all households viewed television through satellite TV. Details are as shown in Chart 13. An increase of the proportion of the access to the households through digital terrestrial television from the previous year may be the result of the dissemination and enhancement of knowledge and understanding of the public through various channels such as the advertising through movies and media, activities arrangement, and having the famous individuals presented for persuading the public to view digital television as well as the expansion of the digital television network across the country.

Chart 13: Proportion of the access to Thai households of platforms for viewing television in 2016



Source: Thammasat University Research and Consultancy Institute

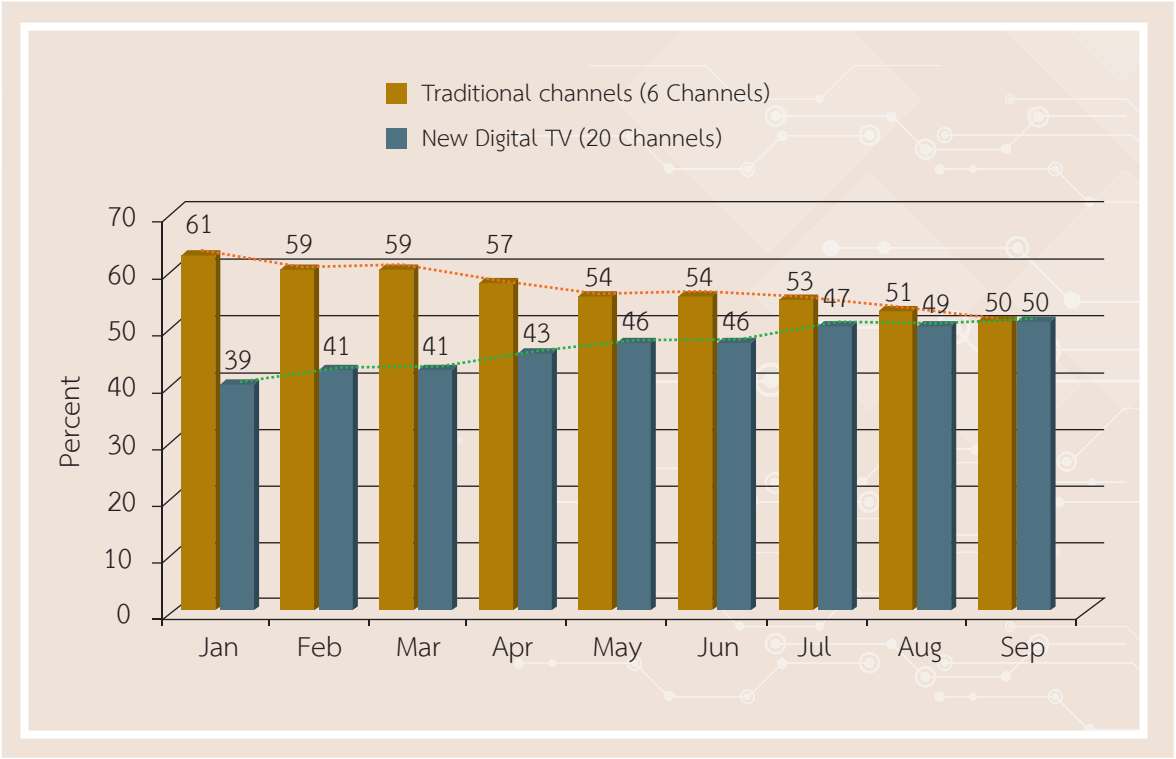
[8] Data from Nielsen, as of January – September 2016

[9] Proportion of the access to Thai households taken from the project to study the results of digital terrestrial television viewing of Thammasat University Research and Consultancy Institute during 26 June 2015 – 26 September 2016

1.1.2 Proportion of viewers on existing terrestrial television channels and new digital television channels in 2016.

Having considered the percent share of the viewers of terrestrial television channels which was divided into 2 groups of 6 traditional TV and 20 new digital TV channels, it can be seen that the proportion of the viewers in the digital TV channels has been continuously increasing which showing that the new digital TV channels are getting more interesting and popular to people. In 2016, the proportion of viewers on new digital TV was increased from 39 percent in January to 50 percent in September, which is accounted for 28 percent growth. Details are shown in Chart 14.

Chart 14: Proportion of viewers on existing terrestrial television channels and new digital television channels in 2016



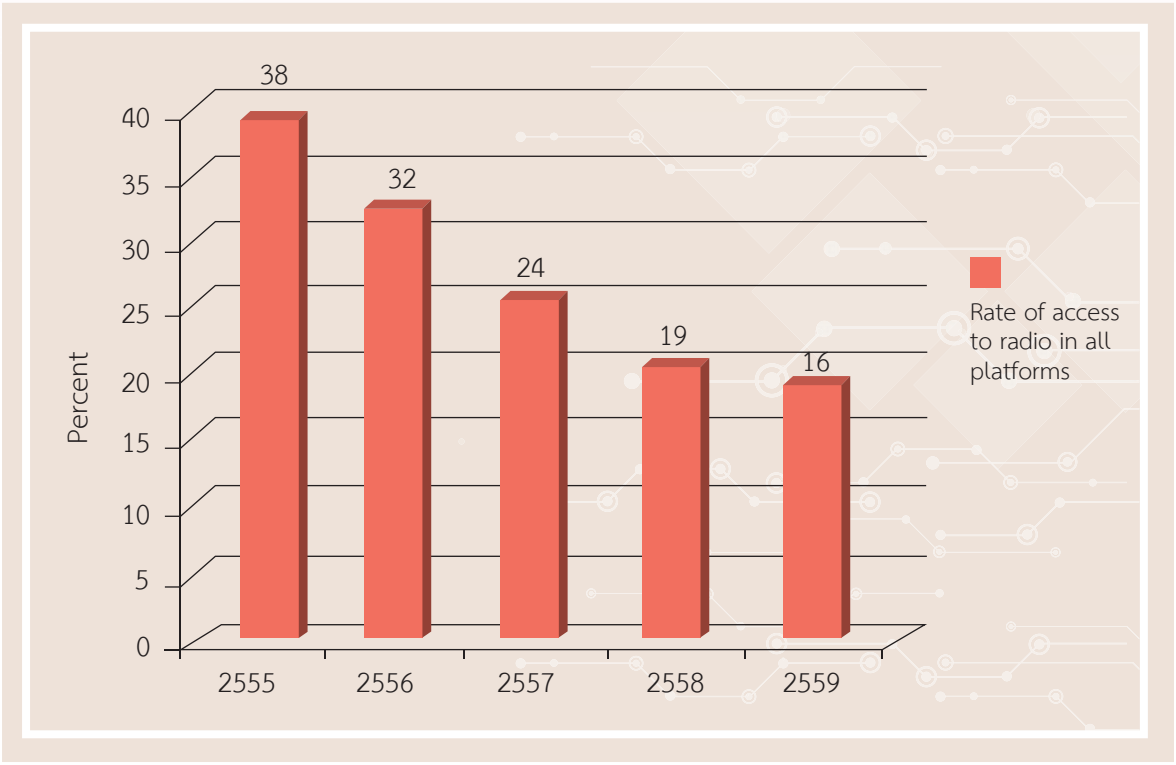
Source: Nielsen

In addition, from the proportion of viewers, who live in Bangkok and its vicinities and provincial areas, on new digital TV channels, traditional channels, and cable/satellite TV, categorized by residential areas, it is found that the new digital TV channels are likely to constantly increase in both areas of residences while the percent share of viewers in the traditional TV channels has been gradually decreased, and the percent share of viewers on cablesatellite TV in Bangkok and its vicinities was also less than in provinces areas.

1.2 Broadcasting market situation in 2016

In 2016, the rate of access to radio in all platforms was 16 percent of the population throughout the country, or 19 percent decreasing from the previous year. However, from the survey, it is found that Thai population has a gradual decrease of access to radio in each year. Details are shown in Chart 15.

Chart 15: Rate of access to radio in all platforms during 2012 - 2016



Source: Nielsen

Moreover, from the survey's result of listeners to the high power stations in Bangkok and its vicinities, it is found that from the listening to 40 FM radio stations (87.5 MHz - 107.00 MHz) as of September 2016, the period of time that attracted more listeners was in the morning during 09.00 – 11.00 a.m. and during 02.00 - 04.00 p.m. Most of them listened to the radio stations in category of entertainment and traffic reports. In addition, if the listening was categorized by the venue, it is found that most of the listeners had listened to the radio from their houses, followed by in vehicles, and working places. The most devices used to listen to the radio is radio equipment, followed by mobile phones or tablet respectively, and the population in the age of 50-59 years old was the group with the highest proportion who had listened to radio broadcasting.

1.3 Market value of broadcasting and television services[10] in 2016

In an overall of 2016, the advertisement value of terrestrial television service was 64.27 percent of advertising value in all media which is the highest proportion of advertising value in all media. However, the proportion of advertisement in the new digital TV channels has risen with a value of 19.27 percent of all media value in this year or increasing 5.64 percent of growth from the year 2015 while the proportion of advertisement in the 6 traditional TV channels was 45 percent.

For the value of advertising on cable/satellite TV, it is likely to decrease which made the total advertisement value decreased from 4.96 percent in the previous year to 3.30 percent in 2016. For the broadcasting service, the advertising value was slightly increased from the year 2015 and the proportion of advertising value comparing to the total advertising value in the same year was 4.78 percent, or 1.84 percent increase from the previous year. Details are shown in Table 40.

Table 40: Advertising value on media in different category[11]

	2015		2016		Percentage of the changes during 2015 - 2016
	Million baht	Percent	Million baht	Percent	
Traditional channels (6 Channels)	43,565	47.59	38,952	45.00	-10.59
Digital TV (19 Channels)	15,788	17.24	16,678	19.27	5.64
Cable TV/Satellite TV *	4,543	4.96	2,855	3.30	-37.16
Radio **	4,067	4.44	4,142	4.78	1.84
Other Media	23,591	25.77	23,934	27.65	1.45
Total	**91,554**	**100.00**	**86,561**	**100.00**	**-5.45**

* Excluded TrueVisions

** Excluded advertising value that the media owners advertised in their own media

Remarks: Digital TV channels have not collected information on advertisement of Channel 10 Parliament TV station

Source: Nielsen

[10] is the advertising value taken from the calculation by using rate card of Nielsen media advertising price collection

[11] is the advertising value from the sum of January-September in which the decimal fraction was made.

1.4 Market value of terrestrial television

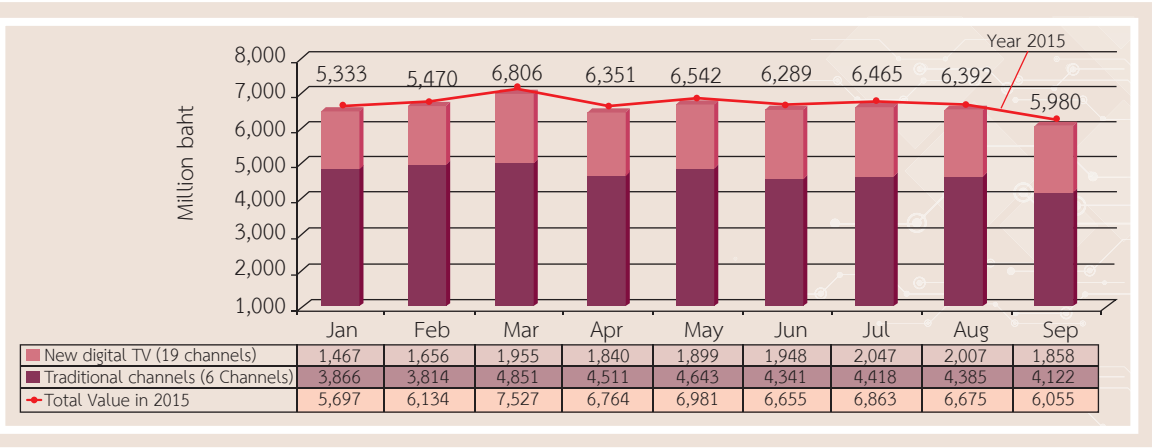
For the advertising value of terrestrial TV channels in this year, it is found that the total market value was decreased. In overall of the year 2016, value of advertising was totally 55,630 million baht, which was 6.27 percent decreasing from the previous year. Although the trend of monthly advertising value is likely to decrease in Q3, it is still found that the proportion of the advertising value in overall in new channels was increased from 26.60 percent in 2015 to 29.98 percent in 2016 which showing of the more interesting in having advertised in the new channels of the viewers on new channels which is likely to increase. When comparing the value in the year 2015 to 2016, it is found that the market value of new channels in 2016 was 5.64 percent increased. Details are shown in Table 41 and Chart 16.

Table 41: Advertising value of traditional channels and new channels comparison between 2015 and 2016[12]

Terrestrial television channels	2015		2016		Percentage of the changes during 2015 - 2016
	Million baht	Percent	Million baht	Percent	
Traditional Channels (6 Channels)	43,565	73.40	38,952	70.02	-10.59
New Digital TV (19 Channels)	15,788	26.60	16,678	29.98	5.64
Total	**59,353**	**100.00**	**55,630**	**100.00**	**-6.27**

Source: Nielsen

Chart 16: Advertising value of terrestrial television market in 2015 and 2016



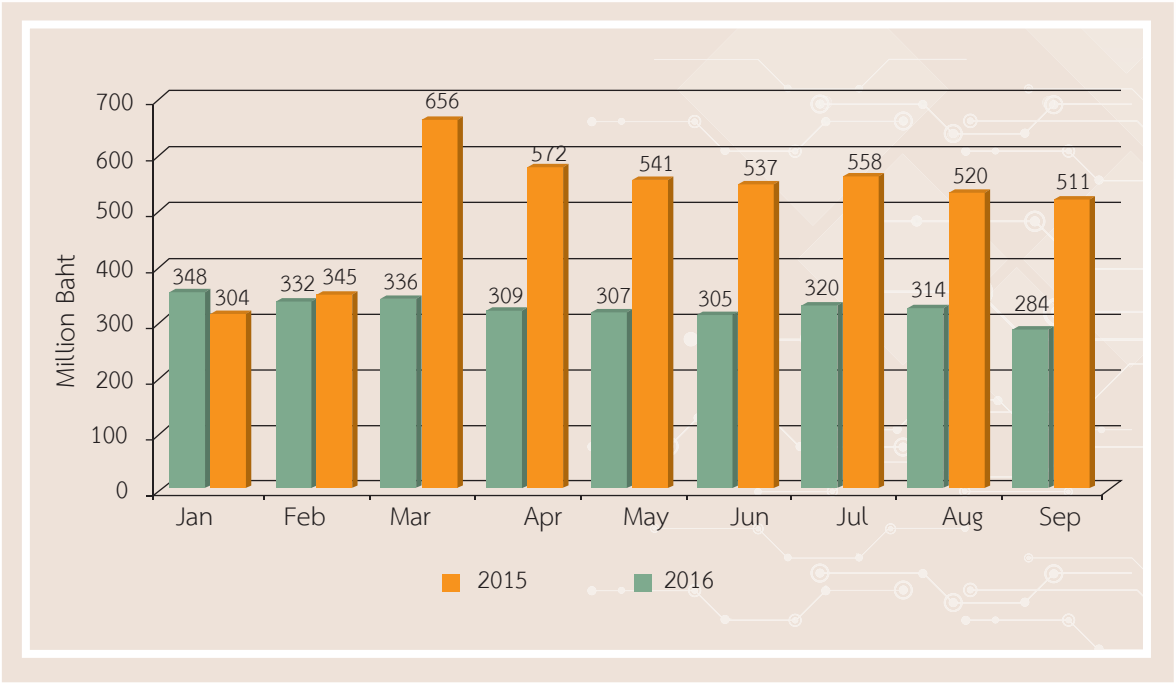
Source: Nielsen

[12] is the advertising value from the sum of January-September in which the decimal fraction was made.

1.5 Advertising value in cable TV and satellite TV services

In 2016, the advertising value of cable TV and satellite TV channels was approximately 284-348 million baht per month, and the advertising value in overall of the entire year was declined from the previous year for approximately 1,688 million baht or accounted for 37.2 percent from the previous year. This indicates the trend of advertisement which has been decreasing in cable/satellite TV channels or may result from the lower rate of advertising of the channels. Details are shown in Chart 17.

Chart 17: Advertising value in cable TV/satellite TV channels

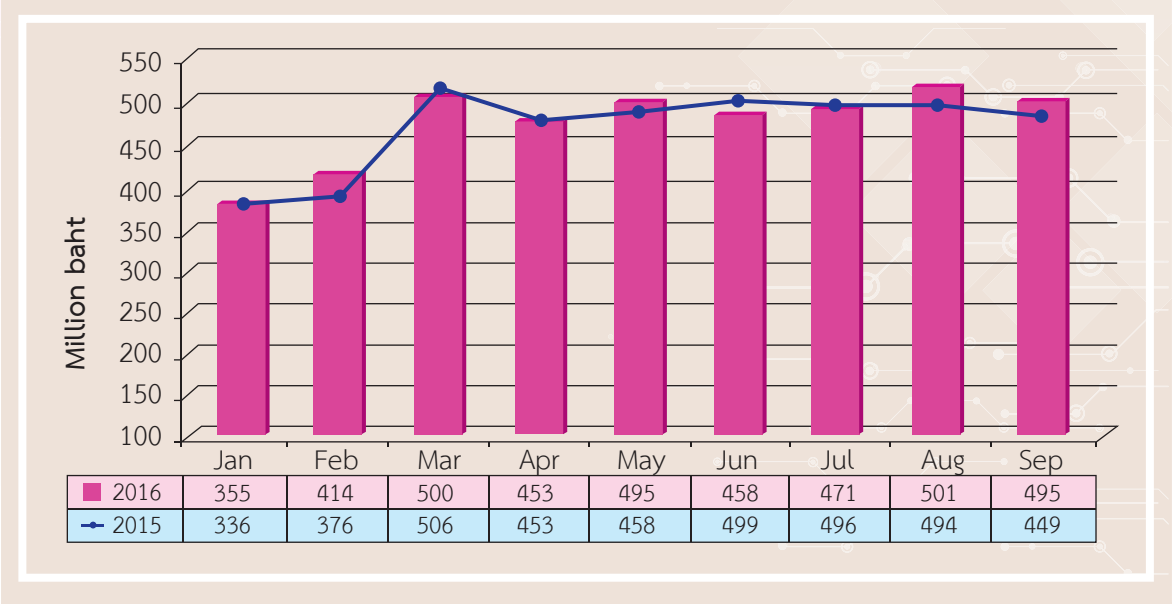


Source: Nielsen

1.6 Advertising value through radio broadcasting stations

The total advertising value through the 36 high power radio broadcasting stations in FM system in Bangkok and its vicinities (88.0 - 91.5 MHz, 93.0 - 103.5 MHz and 104.5 - 107.0 MHz) during January – September 2016 was 4,142 million baht. When the comparison was made to the year 2015, it is found that the advertising value was 75 million baht increased (the advertising value in 2015 was totally 4,067 million baht) or accounting for approximately 1.8 percent increase from the previous year. Details are shown in Chart 18.

Chart 18: Cost of Advertisement on High Power Radio Broadcasting Stations, FM system, in Bangkok and its Vicinities during Jan – Sep of 2015 and 2016



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
2016	355	414	500	453	495	458	471	501	495
2015	336	376	506	453	458	499	496	494	449

Source: Nielsen

2. Market environment in Telecommunications service in 2016

The competition in telecommunications service in Thailand has been classified by the Office of the NBTC, according to the NBTC Notification on Market Definition and Scope of Relevant Telecommunications Market B.E. 2557 (2014), into 2 main markets and 11 sub-markets which consists of 1) Retail market including the market of domestic fixed-line service, domestic mobile service, market of international telephone service, market of fixed internet service, and Market of mobile internet service 2) Wholesale market including market of International internet gateway service, Market of international telephone gateway service, Market of fixed call termination service, Market of mobile call termination service, Market of broadband access service, and Market of leased line service.

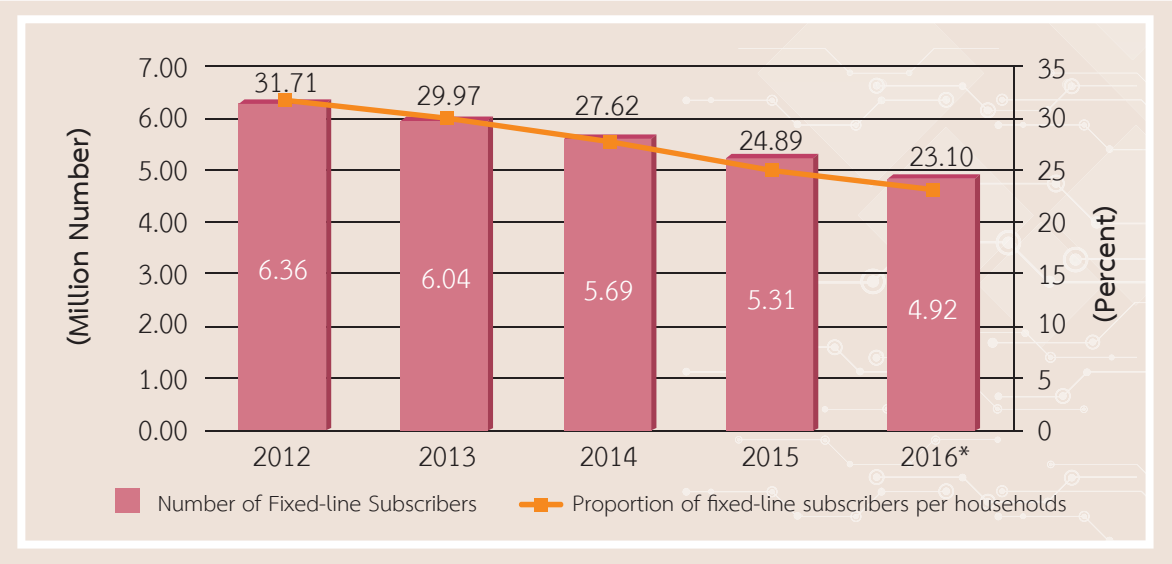
2.1 Retail Market

2.1.1 Market of leased line service

The market of domestic fixed-line service of Thailand in 2016 consisted of 4.92 million fixed-line subscribers, decreasing 7.34 percent when compared to the previous year. Having calculated the proportion of fixed-line subscribers per households, it is found that there was likely to decrease continuously which can be seen from the year 2016 that there was only 23.10 fixed-line subscribers per 100 households as details shown in Chart 19.

However, if the fixed-line service market was classified by area of service, it is found that the fixed-line users in area of Bangkok and its vicinities were 2.50 million subscribers, while the users in the provincial areas were 2.42 million subscribers, or accounting for 50.81 percent and 49.19 percent respectively. In 2016, the number of fixed-line subscribers in Bangkok and its vicinities and the provincial areas were decreased 8.09 percent and 6.56 percent respectively, comparing to the previous year. During 2012-2016, the number of fixed-line subscribers of all 3 incumbents has constantly declined in which the subscribers of TOT was decreased by an average of 4.67 percent per year, while TRUE and TT&T had a decrease by an average of 7.06 and 12.85 percent per year respectively. However, the proportion of the decrease of fixed-line subscribers of TOT had less than TRUE and TT&T which made the market share of TOT increased from 61.90 percent in 2015 to 63.89 percent in 2016. On the other hand, the market share of TRUE and TT&T had decreased to 27.38 percent and 8.73 percent respectively comparing to the year 2015, and the nationwide HHI value in 2015 was 4,708.

Chart 19: Number of Fixed-line Subscribers (2012 - 2016)



Remarks: * Data as of Q3 of 2016

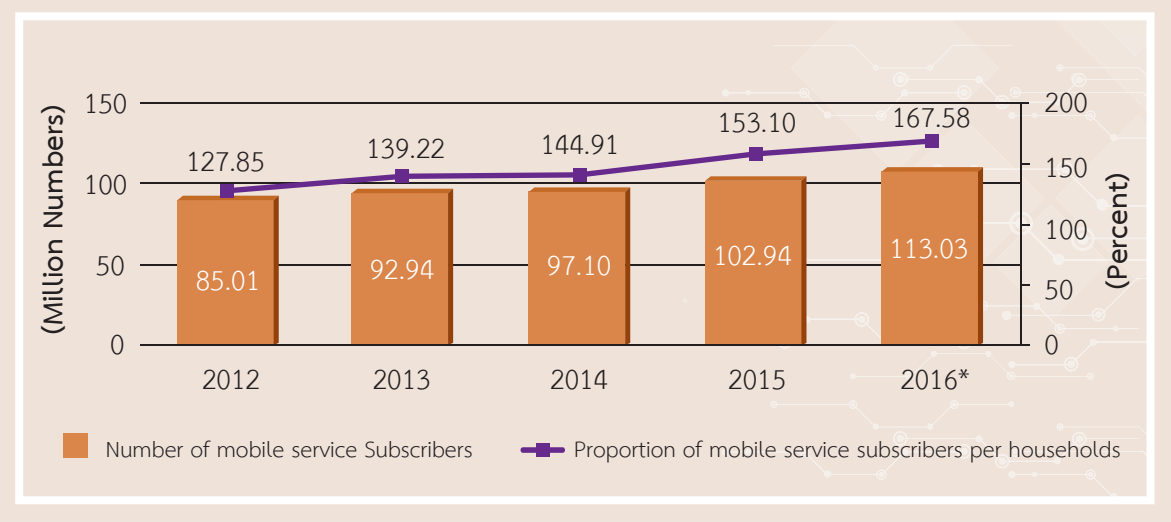
Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.1.2 Market of domestic mobile service

The number of mobile service subscribers in 2016 was 113.03 million numbers or decreasing 9.80 percent and the average growth rate per year was 7.38 percent. Having categorized the number of mobile service subscribers by type of mobile service usage, it is found that in 2016 the number of pre-paid mobile service subscribers was 81.37 percent, decreasing when compared to the previous year. The number of the post-paid mobile service

subscribers, on the other hand, was 18.63 percent, increasing when compared to the previous year. When the consideration was made on the market share of mobile services in 2016, it is found that the AIS group occupied the highest ranking of market share of 44.77 percent, followed by the DTAC group who occupied the market share of 27.87 percent and True Mobile group who occupied the market share of 25.38 percent, increasing from 22.53 percent in the 2015. Details are shown in Chart 20 - 21. Also, it had been forecasted that the HHI value of the mobile service market in 2016 was 3,428.

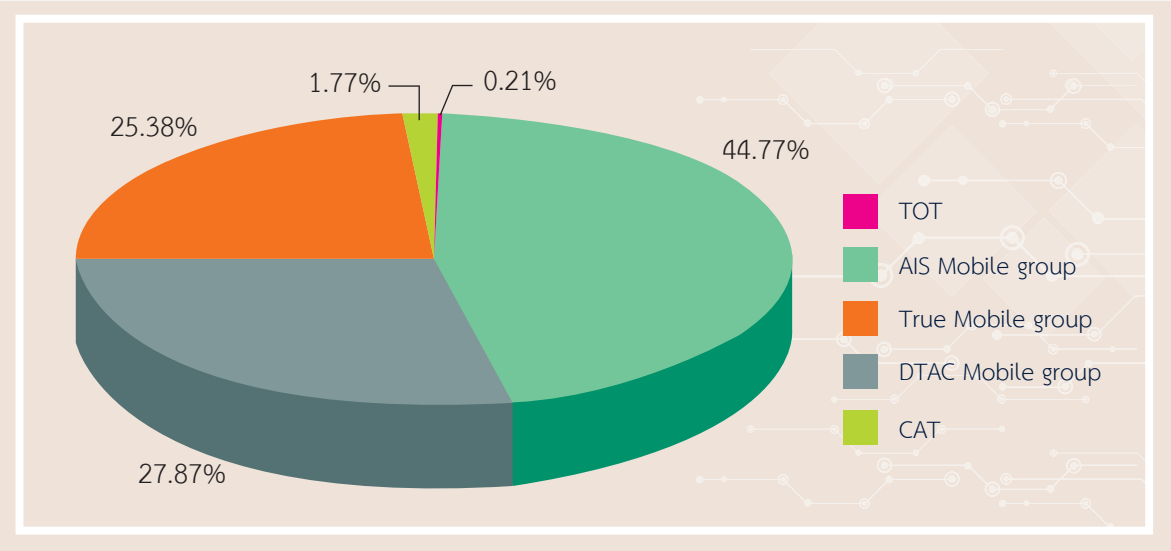
Chart 20: Number of mobile service subscribers (2012-2016)



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

Chart 21: Market share of mobile service providers in 2016

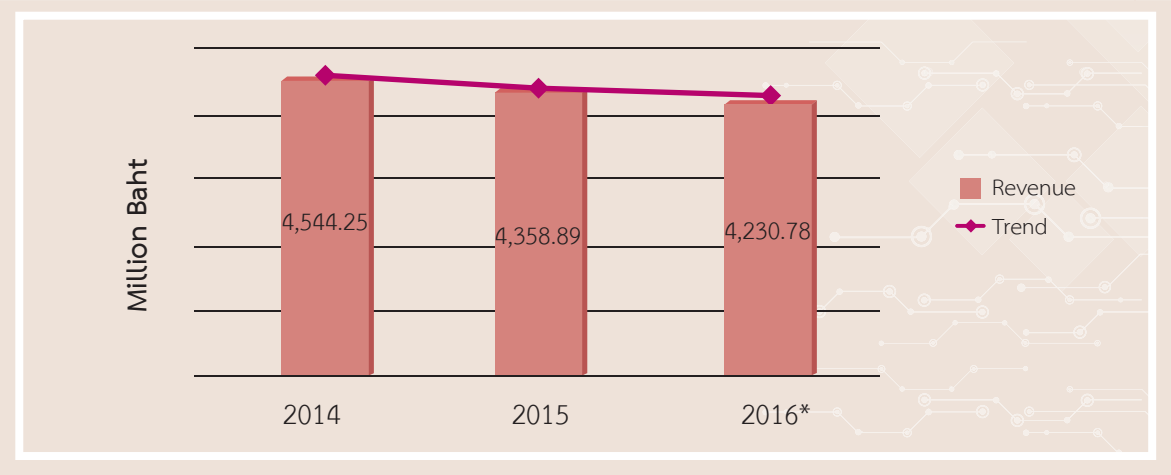


Source: From the calculation

2.1.3 Market of international telephone service

The revenue from the provision of international telephone service is likely to decline, and it was forecasted that in 2016 the total revenue would be 4,230.78 million baht, decreasing 2.94 percent when compared to the previous year. For the market share, AIN & AWN have the highest market share of 54.03 percent, and it was forecasted that in 2016 the HHI would be 3,822.99. Details are shown in Charts 22 - 23.

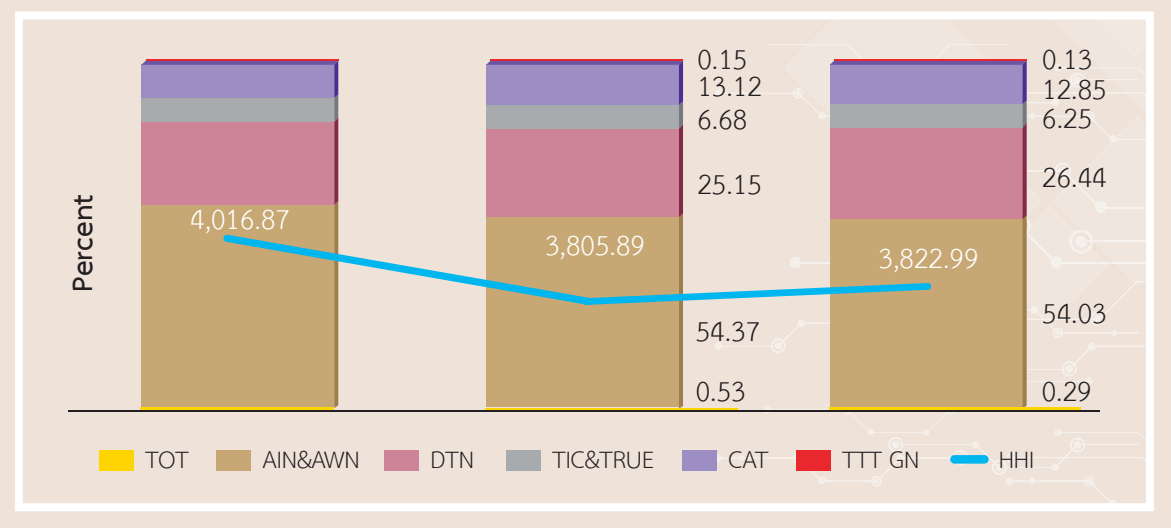
Chart 22: Total revenue from the provision of international telephone service



Remarks: * is data from the forecast

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

Chart 23: Market share of international telephone market and HHI



Remarks: * is the data from the forecast

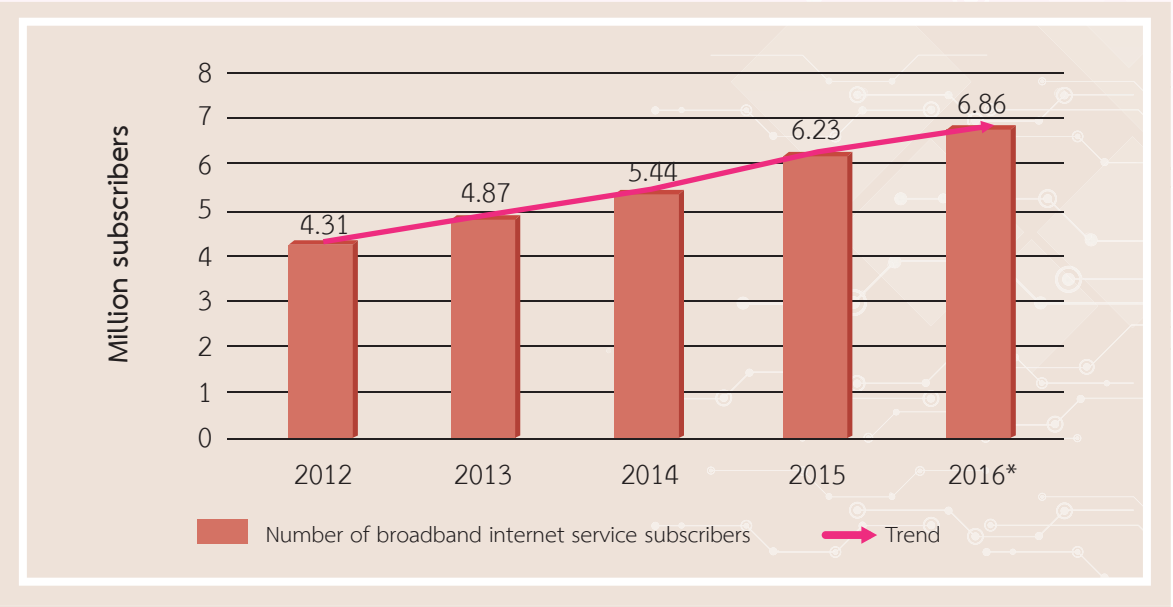
Source: from the calculation

2.1.4 Market of fixed internet service

At present the market of narrowband internet service is about to disappear from the internet service market and the value proportion of internet connection has been reduced to 0.10 percent of total internet connection value in 2016, as well as the proportion of broadband internet connection of technology in the xDSL group (Digital Subscriber Line) which has been reduced to 69.51 percent of total internet connection value in 2016. However, broadband internet service has still been the highest number of connection as it can be connected to a variety of technologies and the FTTP (Fiber- to- the- Premises) has currently become more popular with a constant growth. In 2016, the value proportion of internet connection was increased to 18.48 percent of total value proportion of internet connection in 2016. From the year 2011 to 2016, the FTTP technology internet service had its compound annual growth rate (CAGR) of 126.43 percent which made the number of broadband internet service subscribers increased to 6.86 million subscribers in 2016, or increasing 10.11 percent comparing to the previous year. Details are as shown in Chart 24. In 2016, the proportion of broadband internet service subscribers was 10.18 subscribers per 100 populations while the proportion of broadband internet service subscribers per household was 32.19 subscribers per 100 households throughout the country.

For the market share of the service providers of broadband internet connection, the incumbents have their connection with the fixed-line service providers. During the year 2011 – 2016, the leader of broadband internet service in 2016 was True Internet Company Limited (TRUE internet) who had 38.71 percent of the market share, increasing when compared to the year 2015 that the market share was 38.34 percent, followed by Triple T Broadband Public Company Limited (3BB) who occupied the market share of 34.16 percent, increasing when compared to the year 2015 that the market share was 32.27 percent. The market share of TOT Public Company Limited, however, was decreased from 22.33 percent in 2015 to 18.65 percent in 2016 while other internet service providers (ISPs) who have no connection with the provision of PSTN network service had their market share of 8.48 percent in 2016, increasing when compared to the market share in 2015 which was 7.06 percent. For the HHI value, it is likely to continuously decline and at the end of the year 2016, it was 3,085.

Chart 24: Number of broadband internet service subscribers during 2012 - 2016



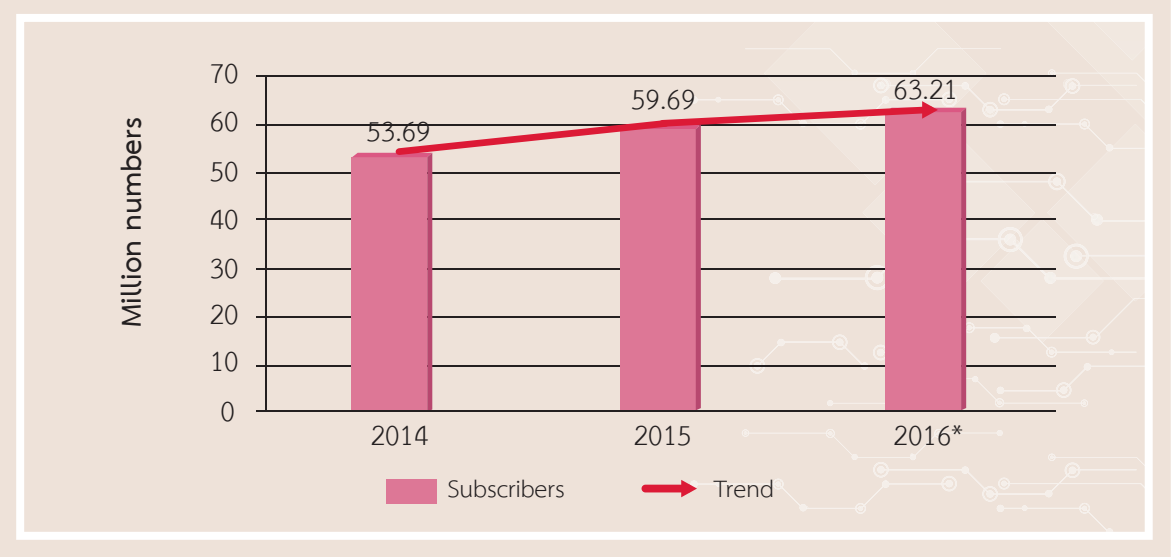
Remarks: * Data as of Q3 of 2016

Source : Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.1.5 Market of mobile internet service

The mobile internet market has a constant increase of users, and in 2016, the number of service subscribers was 63.21 million numbers, or increasing 4.90 percent when compared to the previous year. Details are shown in Chart 25.

Chart 25: Number of internet service subscribers

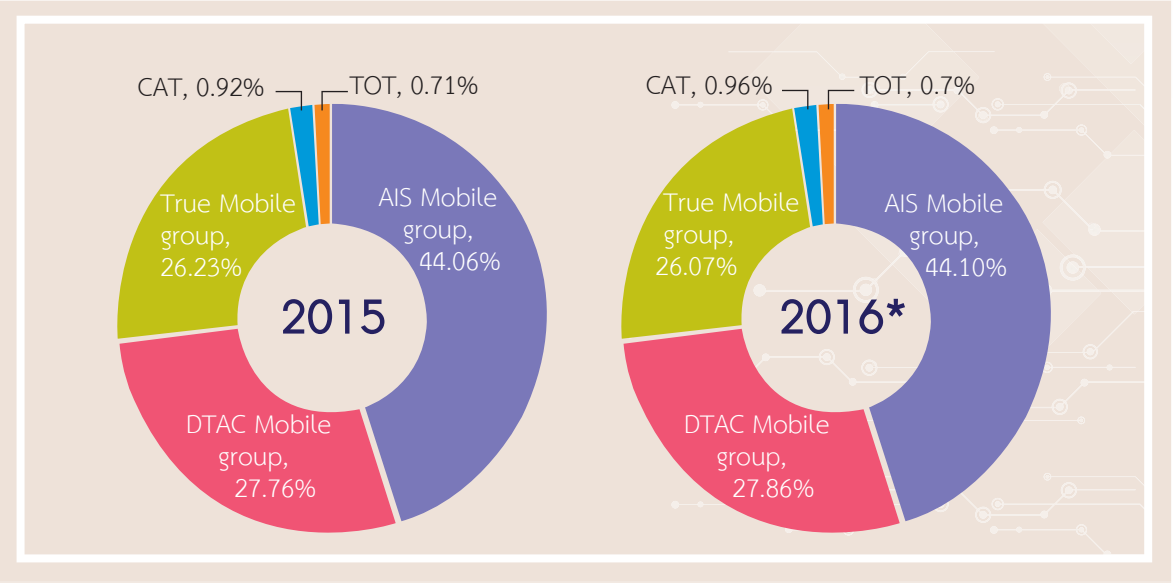


Remarks: *Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

The revenue from the market of mobile internet service provision is likely to increase according to the number of subscribers. In 2016, the revenue from service provision was 24,632.52 million baht, increasing 10.21 percent when compared to the previous year. Having considered the market share of the revenue from the service provision, it is found that in 2015, the AIS group had the highest market share of 44.10 percent, increasing when compared to the previous year, followed by the DTAC group who had the market share of 27.86 percent, increasing when compared to the previous year. Details are as shown in Chart 26. The HHI value was 3,401.55, slightly increasing when compared to the previous year which was 3,401.12

Chart 26: Market share of mobile internet service



Remarks: * Data as of Q3 of 2016

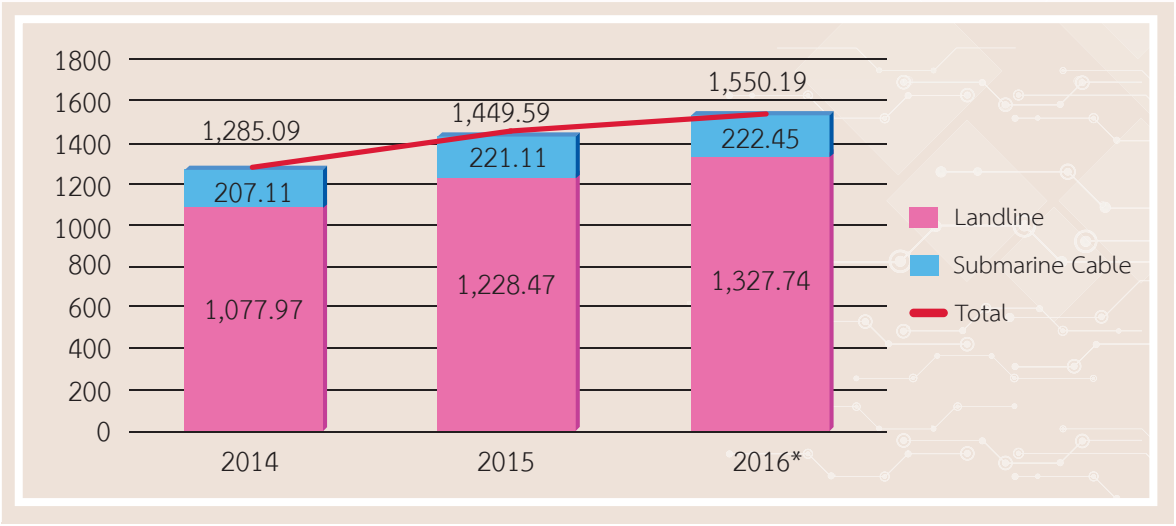
Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.1.6 Market of international internet gateway service

At present, the volume of bandwidth used for the connection in the provision of international internet gateway service is likely to increase continuously. In the year 2016, the volume of bandwidth was totally 1,550.19 Gbps, increasing 6.94 percent when compared to the previous year. Those volume can be classified into the connection through landline, which the service has been provided by all service providers, that the total volume of bandwidth was 1,327.74 Gbps, increasing 8.08 percent when compared to the previous year; while the connection through submarine cable, which CAT Telecom Public Company Limited is the only service provider, had the total volume of bandwidth of 222.45 Gbps, increasing 0.61 percent when compared to the previous year. Details are as shown in Chart 27.

Having considered the market share by calculating from volume of bandwidth, it is found that CAT had the highest market share at 19.13 percent, decreasing when compared to the previous year which was 19.73 percent, followed by SBN, TIG, Jastel and TOT who had 15.81, 13.15, 10.83 and 10.57 percent respectively. Details are as shown in Chart 28. It is also forecasted that the HHI value of this market would be 1,250.89.

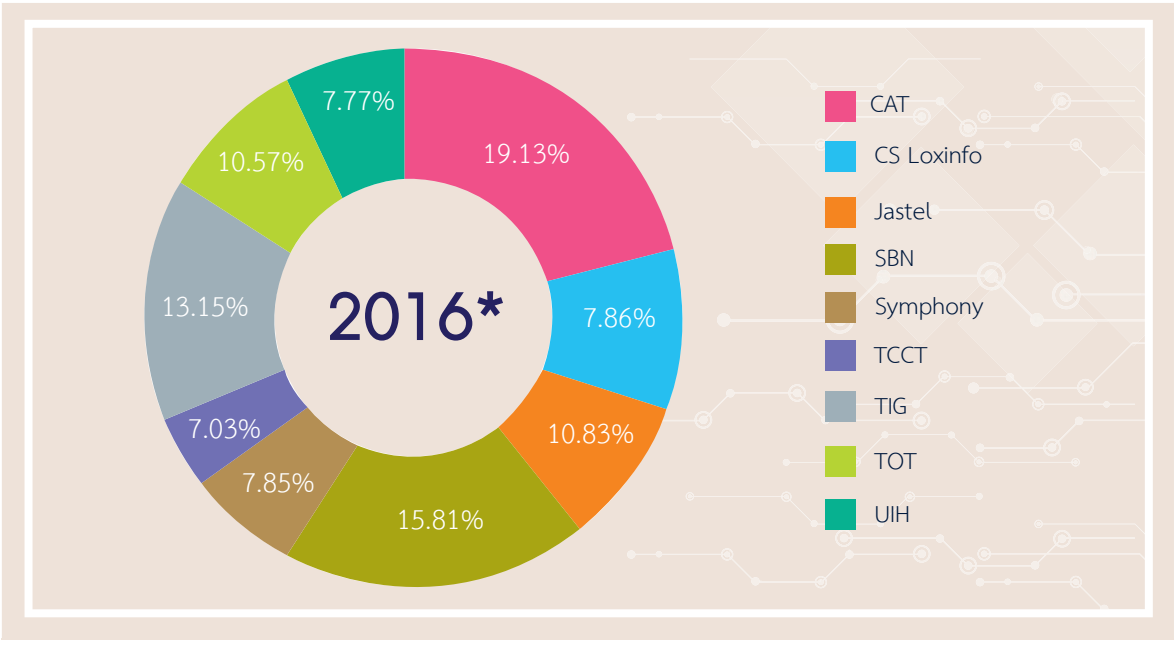
Chart 27: Volume of bandwidth used for international internet gateway service



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

Chart 28: Market share of international internet gateway service in 2016



Remarks: * Data as of Q3 of 2016

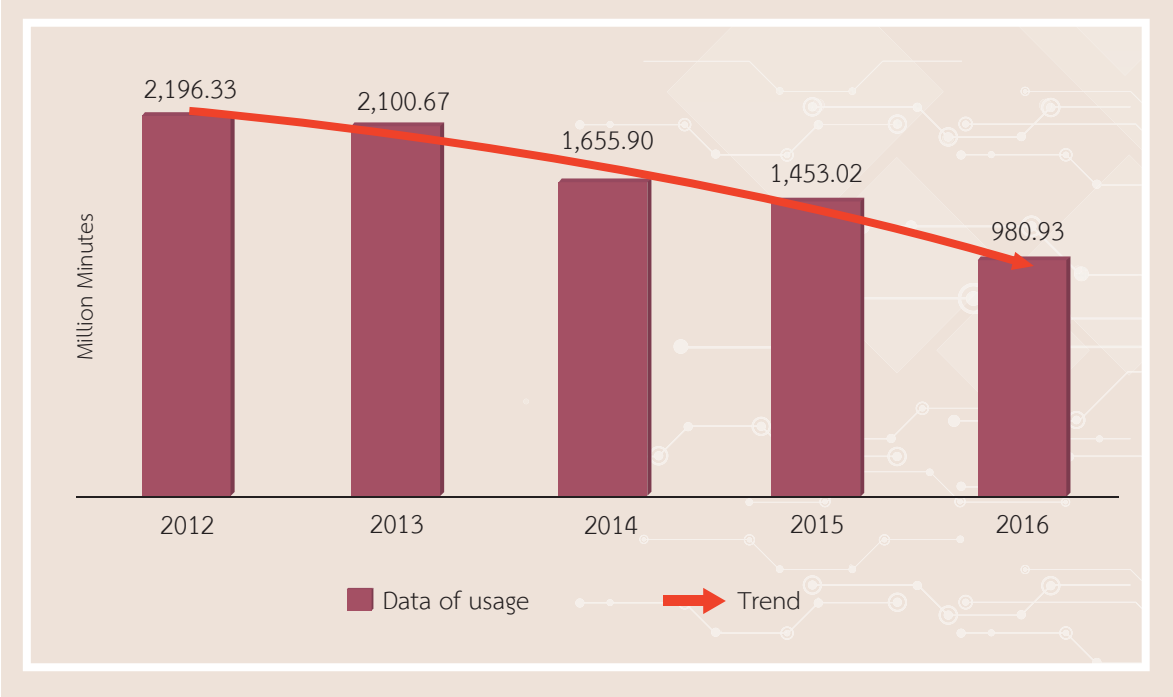
Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.2 Wholesale market

2.2.1 Market of international telephone gateway service

Currently, there are 5 licensees for the provision of international telephone gateway service, namely CAT, TOT, AIN, TIC and DTN. All licensees are the providers of international telephone retail service, and most of them are also the service providers in the retail market of domestic fixed-line and mobile service. According to the data of usage volume, it is found that the trend is likely to decline as in 2016 the total usage volume was 980.93 million minutes, decreasing 32.49 when compared to the previous year. Details are as shown in Chart 29. Having considered the market share of international telephone gateway service from the usage volume, it is found that, in 2016, CAT occupied the highest market share of 32.83 percent, increasing when compared to the previous year which was 31.45 percent, details are as shown in Chart 30, while the HHI value was 2,486.84, decreasing when compared to the previous year which was 2,796.41.

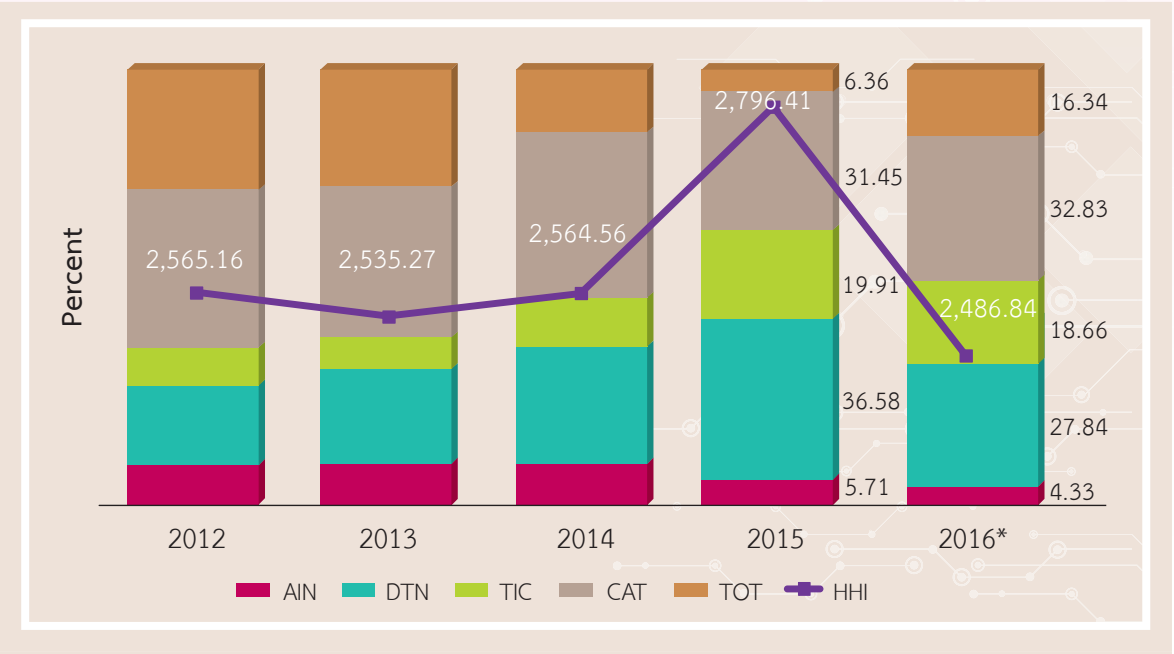
Chart 29: Minutes of call dialing and call receiving through international telephone gateway



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

Chart 30: Market share of international telephone gateway service



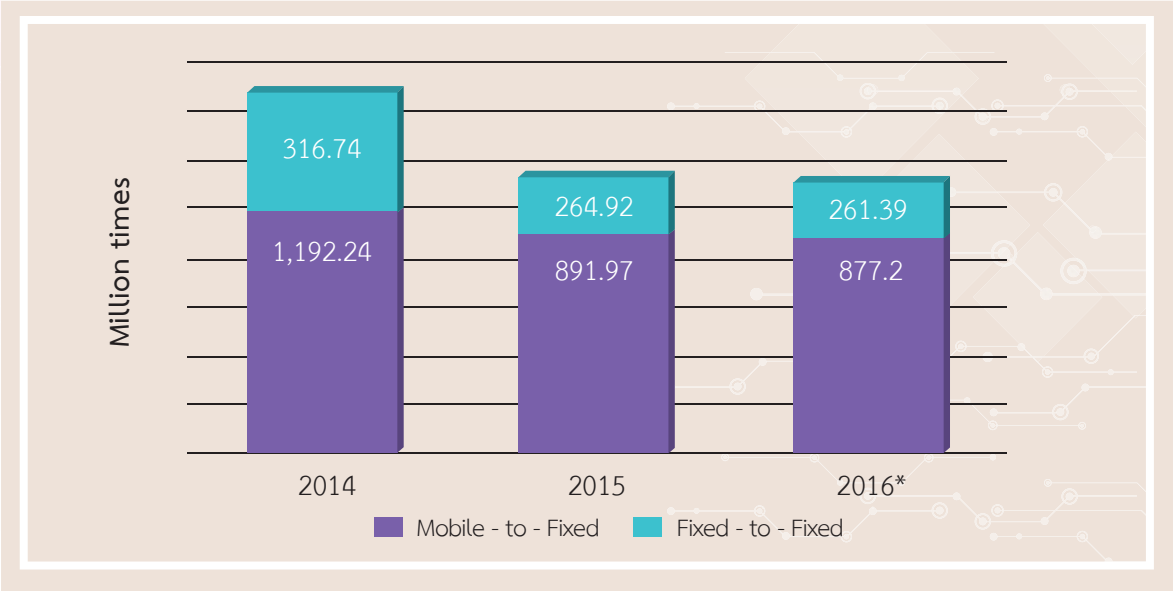
Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.2.2 Market of fixed call termination service

At present, there are 9 fixed-line service providers, who have provided services to end users, consisting of TOT, True, TT&T, TU, CAT, OTW, SBW, 3BB and AWN. According to the nature of call termination service, the provider of fixed call termination service must be retail service provider for fixed-line service. In 2016, the traffic volume of the usage of fixed call termination service was totally 1,138.59 million times, which can be divided into the call receiving from basic telephone network (mobile-to-fixed call) for 877.20 million times. For the fixed-to-fixed call, there was 261.39 million times. Details are as shown in Chart 31. If the fixed call termination usage was measured by number of minutes, the traffic volume of the usage of fixed call termination service was totally 2,206.35 million minutes, which can be divided into the call receiving from mobile-to-fixed network for 1,637.10 million minutes, and the call receiving from fixed-to-fixed network was 569.25 million minutes. Details are shown in Chart 32.

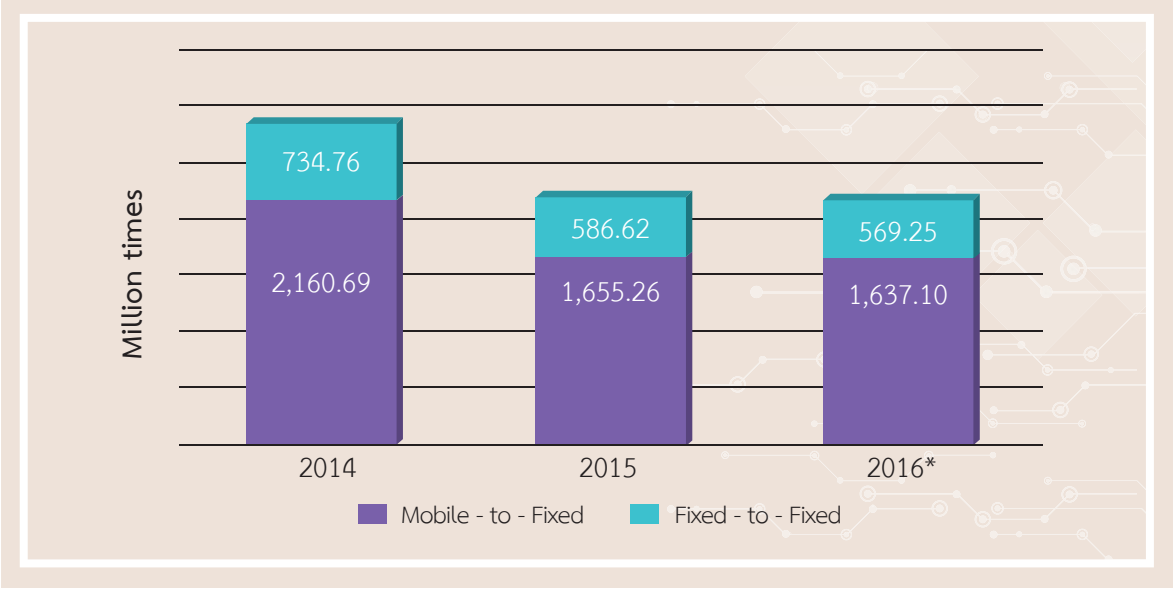
Chart 31: Number of call receiving of fixed call termination service



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

Chart 32: Minutes of call receiving of fixed call termination service



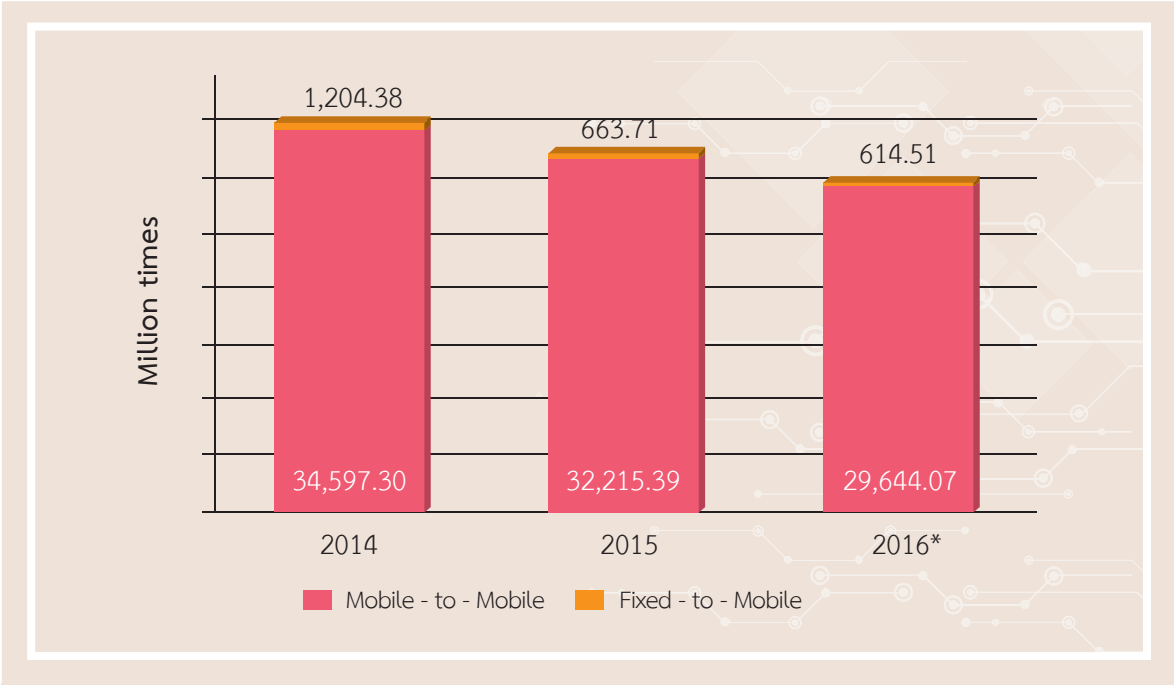
Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.2.3 Market of mobile call termination service

There are currently 10 mobile network interconnection service providers who have provided services to end users (excluded MVNO service providers) but only 9 service providers can provide the mobile call termination service. Those service providers can be divided into 5 groups consisting of AIS group (AIS, AWN, DPC), DTAC group (DTAC, DTN), TRUE group (True Move, TUC, Real Move), TOT and CAT. In 2016, the mobile call termination service usage was totally 30,258.58 million times which can be divided into the call receiving from mobile network (Mobile-to-Mobile) for 29,644.07 million times and the call receiving from fixed network (Fixed-to-Mobile) for 973.64 million times. Details are as shown in Chart 33. If the mobile call termination usage was measured by number of minutes, in 2016 there was totally 67,084.02 million minutes which can be divided into the call receiving from mobile-to-mobile network for 66,181.01 million minutes, and the call receiving from fixed-to-mobile network for 903.01 million minutes. Details are as shown in Chart 34.

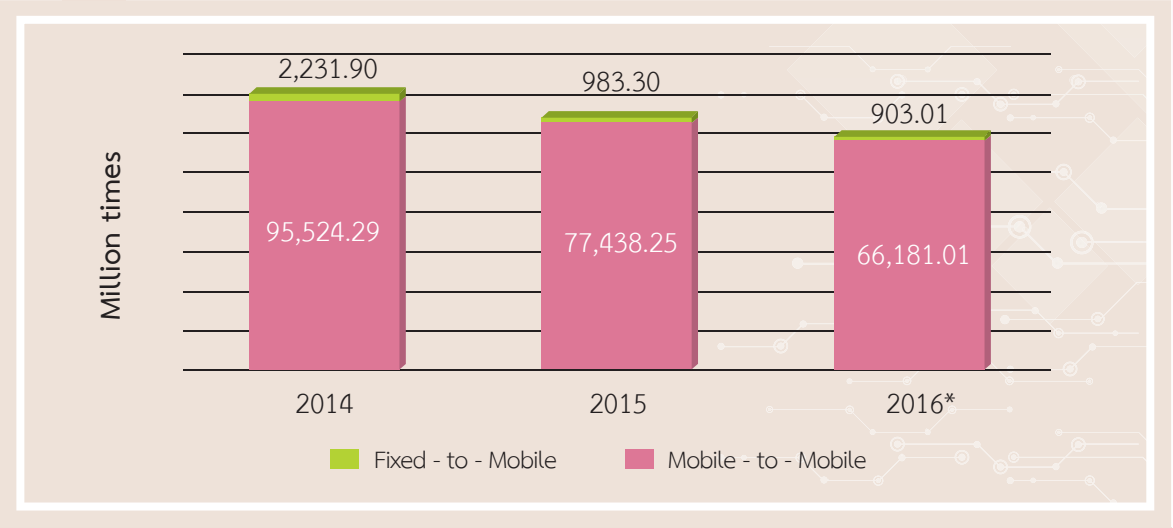
Chart 33: Number of call receiving of mobile call termination



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

Chart 34: Minutes of call receiving of mobile call termination



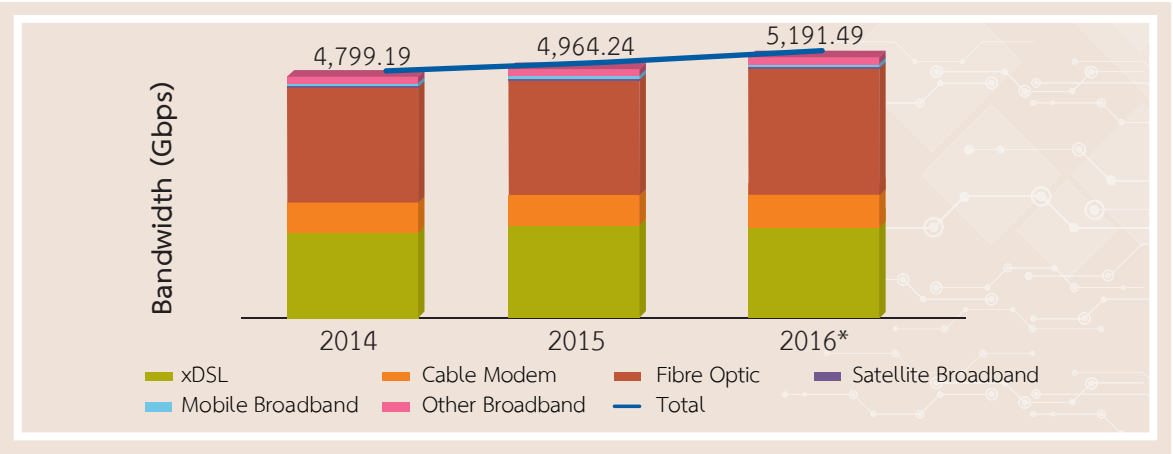
Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.2.4 Market of broadband access service

At present, the usage volume of broadband access services is likely to increase steadily and in 2016 the usage volume was 5,191.47 Gbps, increasing 2.52 percent when compared to the previous year as shown in Chart 35, and the revenues from broadband access services has also steadily increased and the revenue in 2016 was 20,556.97 million baht or increasing 0.85 percent when compared to the previous year. The service usage can be divided into having own usage and providing service to companies in the same group for 39.13 percent, and having sold to other companies for 60.85 percent.

Chart 35: Volume of broadband access usage categorized by technology



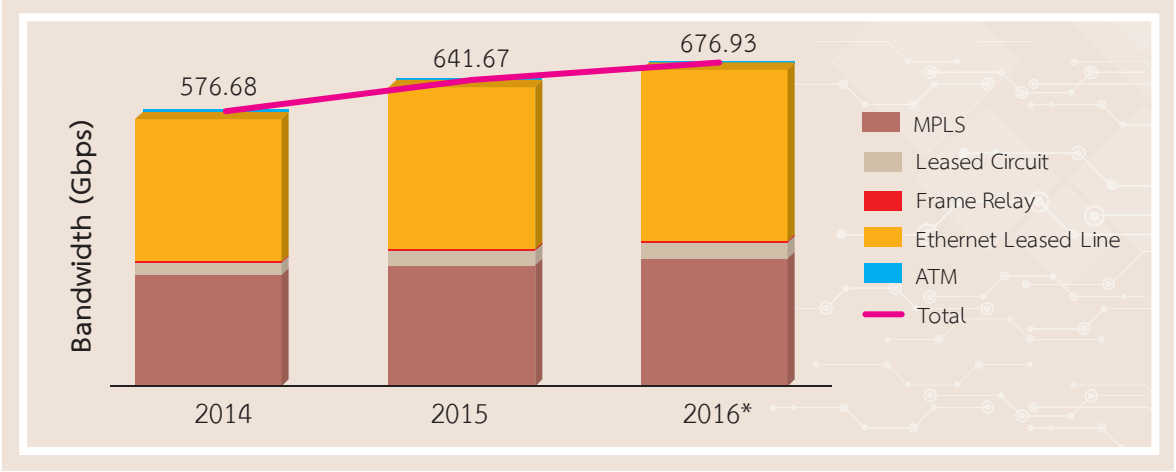
Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.2.5 Market of leased-line service

The usage volume of leased-line service has been increasing continuously and in 2016 the usage volume was 676.93 Gbps or increasing 2.31 percent when compared to the previous year, as shown in Chart 36. The revenue from broadband access service is also likely to increase steadily and it is was 2,233.60 million baht, or increasing 2.16 percent when compared to the previous year. Having considered the market share, it is found that TRUE occupied the highest market share of 27.05 percent, followed by TOT, UIH and Symphony. Details are as shown in Chart 37. In 2016, the HHI value was 1,018.25, slightly increased when compared to the previous year which was 1,016.26.

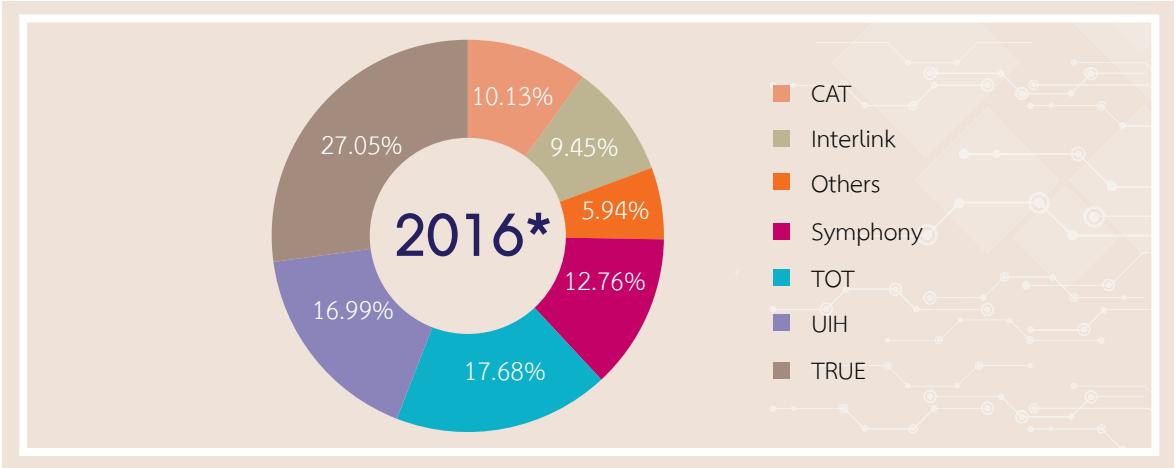
Chart 36: Volume of leased line service categorized by technology



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

Chart 37: Market share of leased-line service in 2016



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

The observation on the action in the nature of dominance in broadcasting and telecommunications services

1. The observation on the action in the nature of dominance in telecommunications services

To prevent the service mergers of telecommunications licensees which will lead to the dominance in telecommunications market, the NBTC therefore has regulated the service mergers of telecommunications licensees to be in accordance with the NTC Notification on Criteria and Procedures for Mergers and Cross-shareholdings in Telecommunications Service B.E. 2553 (2010). In 2016 there was a service merger according to the NTC Notification on Criteria and Procedures for Mergers and Cross-shareholdings in Telecommunications Service B.E. 2553 (2010) as follows: the Fiber Public Company Limited has notified the purchase of 99.98 percent of shares in Digital Corporation Public Company Limited with the amount of 40 million baht which is the asset received from another licensee at the value less than 50 million baht and it was considered to be done in accordance with the exemption No. 4, Paragraph 2 of the Notification. Such merger thus does not affect on the competition in telecommunications industry.

2. The observation on the action in the nature of dominance in broadcasting and television services

In 2016, there was no licensee who complied with the criteria to submit the request for the NBTC authorization in advance neither nor the case of prohibited action in the nature of dominance in broadcasting and television services both directly and indirectly business by persons with mutual interest, which may result in the monopoly, reduction or limitation of competition according to the NBTC Notification on Nature and Measure for the Regulation of the Mergers, Cross-Shareholding, and Dominance in the Broadcasting and Television Services.

Quality of service and telecommunications service rates

1. Regulation of Quality of service

To protect consumers to get a quality telecommunications service with good service provision and to support the development of national telecommunications network for the utmost benefit of the telecommunications users, the Office of the NBTC has therefore monitored the quality of service provision by requiring that all service providers must report the result of quality of service measurement to the Office of the NBTC and also conducted the random inspection of quality of telecommunication service provision regularly including requesting the operators for verifying complaints received from the consumers. The inspection of quality of service provision consisted of the followings:

1.1 Having examined the quality of telecommunications service provision by having the operators reported on the quality of service to the Office of the NBTC quarterly in either voice service consisting of fixed-line services, mobile phone services, and public phone services, or data service for mobile phone network[14] according to parameters of quality of service prescribing in the NTC Notification on Standard and Quality of Telecommunication Service Provision (Voice Service). Details are as shown in Table 42.

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[14] According to the NTC Notification on Standard and Quality of Telecommunication Service Provision (Voice Service), there is no requirement for the telecommunications service providers of voice service to submit the report on quality of service to the Office of the NBTC, however, they must submit data of quality of service provision to the NBTC for verification upon the request. In the current year, the Office of the NBTC has just requested for the operators' cooperation to submit the data of quality of telecommunication service provision (voice service) to the Office of the NBTC in which the service providers had submitted the data of quality of telecommunication service provision (voice service) in 2016 as follows:

Fixed-line service

CAT Telecom Public Company Limited (CAT)

True Corporation Public Company Limited (True Crop)

True Universal Convergence Company Limited (TU)

Public phone service

True Corporation Public Company Limited

Satellite communication long distance call service

ACeS Regional Services Company Limited (ARS)

Mobile phone service

CAT Telecom Public Company Limited (CAT)

Advance Info Service Public Company Limited (AIS)

Advance Wireless Network Company Limited (AWN)

True Move H Universal Communication Company Limited (TUC)

Real Move Company Limited (Real Move)

Total Access Communication Public Company Limited (DTAC)

DTAC TriNet Company Limited (DTN)

Table 42: Parameters of quality of service (voice service)

Parameters	Target
Fixed-line service	
Duration for service subscription	No longer than 10 working days
Percentage of a success service installation within a given time	No less than 90 percent
Number of faults being reported per 100 users	Not exceed 5 times per 100 users
Duration for repairing	No longer than 24 hours
Successful call ratio in case of calls within the same operator's network	Not less than 90 percent
Successful call ratio in case of calls across different operators' network	Not less than 85 percent
Billing errors	Not exceed 1 percent
Waiting times for being served by the call center agents	No longer than 60 seconds
Mobile phone service	
A success call ratio in case of calls within the same operator's network	Not less than 90 percent
A success call ratio in case of calls across different operators' network	Not less than 85 percent
A ratio of dropped calls within the same operator's network	Not exceed 2 percent
Complaint rate relating to billing errors	Not exceed 2 percent per month
Waiting times for being served by the call center agents	Not exceed 60 seconds

Table 42: Parameters of quality of service (voice service) (Continued)

Parameters	Target
Public phone services	
Service availability of public phones equipment	- Not less than 90 percent in areas of Bangkok and its vicinities - Not less than 85 percent in provincial areas
Duration for repairing	No longer than 24 hours
A success call ratio in case of calls within the same operators' network	Not less than 90 percent
A success call ratio in case of calls across different operators' network	Not less than 85 percent
Waiting times for being served by the call center agents	No longer than 60 seconds
Satellite communication distance call services	
Duration for service subscription	No longer than 15 working days
Percentage of a success installation of service within the given time	Not less than 90 percent
Number of faults having been reported per 100 users	Not exceed 15 times per 100 users
Duration for repairing	- No longer than 3 working days in areas of Bangkok and its vicinities - No longer than 7 working days in provincial areas
Percentage of duration that has been affected by the damage of network equipment	Not exceed 4 percent
Unsuccessful call ratio in case of calls within the same satellite network	Not exceed 0.05: during peak times and off-peak times
Duration for call interconnection	No longer than 10 seconds
Billing errors	Not exceed 1 percent
Waiting times for being served by the call center agents	No longer than 120 seconds

Source: Telecommunications Standard and Technology Bureau, the Office of the NBTC

During the quarter 1-3 of 2016, it is found that all telecommunications service providers have met the minimum standards required by the Notification. In addition, from the report of quality of telecommunication service (data service) for mobile phone network submitted by 7 service providers consisting of CAT Telecom Public Company Limited, TOT Public Company Limited, Advance Info Service Public Company Limited, Advance Wireless Network Public Company Limited, True Move H Universal Communication Company Limited, Total Access Communication Public Company Limited, and DTAC TriNet Company Limited, according to the parameters of quality of service prescribing in the NBTC Notification on Standard and Quality of Telecommunication Service Provision (Data) for Mobile Phone Network. Details are as shown in Table 43.

Table 43: Parameters of quality of service (data service)

Parameters	Definition	Target
Duration for internet access service subscription	Duration that the user has to wait for being served in hours starting from the time that the internet access service contract has been effective to the first time that the user is able to use internet service	1) Prepaid : not exceed 3 hours for 90 percent of the application for internet access service subscription in each quarter 2) Postpaid: not exceed 5 hours for 90 percent of the application for internet access service subscription in each quarter
Waiting times for service inquiry/service charging calculation/being served by the call center agents	Duration that the user has to wait for being served by an agent when the user make a call to the Call Center of the licensee	Referencing to the target prescribed in the NTC Notification on Quality of Telecommunications service (Voice Service), Article 1.8 Parameters of Quality of Service “Waiting times for service inquiry/service charging calculation/being served by the call center agents”

Table 43: Parameters of quality of service (data service) (Continued)

Parameters	Definition	Target
Percentage of complaints concerning the billing accuracy	1) Pre-paid: percentage of users in prepaid system who files complaints regarding the billing accuracy per average number of users in one month (including the case of prepaid top-up) 2) Post-paid: percentage of number of invoice having been complained regarding invoice accuracy per total number of invoices in one month	1) Prepaid: included the number of users who filed complaints on service charge on voice must not exceed 1 percent 2) Postpaid: included the number of users who filed complaints on service charge on voice must not exceed 1 percent
Duration used for resolving complaints of users	Duration for resolving complaints from users	Referencing to the NTC Notification on Procedure for Users' Complaint Receipt and Consideration, No. 123, Special 88 D, Page 29, Article 5
Percentage of duration that being unable to provide service through radio frequency	[(The sum of duration that each cell site (or sector) is unable to provide service (down time)) / Total duration of service provision x total number of cell site (or sector))] x 100 (%)	Report shall be made quarterly without minimum requirement

Source: Telecommunications Standard and Technology Bureau, the Office of the NBTC

During the quarter 1 - 3 of 2016, it is found that all service providers have met the standards and the quality of service according to the standard requirement of the Notification except the service standard on duration used for resolving complaints of users which AIS and AWN had the duration below the standard criteria prescribed by the Notification. However, AIS had already terminated the concession for the service provision.

1.2 Having examined the quality of service which had been done by the Office of the NBTC itself

The Office of the NBTC had conducted the annual random tests on the quality of mobile service provision of 5 mobile service providers, consisting of AWN, DTN, TUC, TOT and MY, in 74 provinces by means of Drive Test in 2016 and found that the standards value and quality of telecommunications service (voice) of all service providers have been in accordance with the criteria prescribed by the Notification with a success call ratio not less than 90 percent and a ratio of dropped call not exceed 2 percent. For the quality of telecommunications service (data), the standards value of services of all service providers have been in accordance with the criteria prescribed by the Notification with a FTP success ratio in case of download not less than 80 percent and the average speed of data transmission of FTP was not below 345 kbps for 3G and 48 kbps for 2G. Moreover, the Office of the NBTC had also examined the quality of mobile service according to the complaints and special tasks assigned.

2. Service rates of telecommunications services

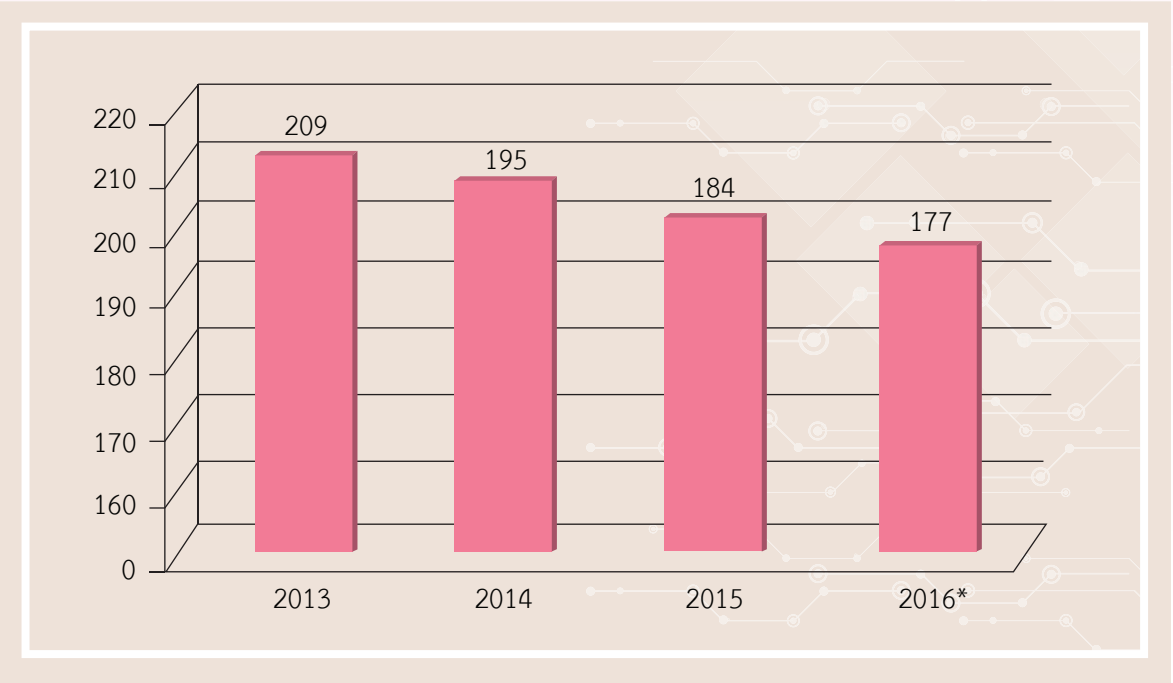
The NBTC has given the priority to the regulation of telecommunications service rates to ensure that people are able to use telecommunications services at reasonable and fair price. The telecommunication services rates include fixed-line service rate, mobile phone service rates, and broadband internet service rates.

2.1 Regulation of fixed-line service rate

AT present, there are 3 main fixed-line service providers, TOT Public Company Limited (TOT), True Corporation Public Company Limited, and TT&T Public Company Limited. It is found that in 2016 the use of fixed-line service has been declined constantly which can be seen from the average revenue per user (ARPU) per month of the provision of fixed-line service from 2013 to present (Q3 of 2016) that was 209, 195, 184 and 177 respectively. This made the service providers therefore attempted to maintain the users' base and the level of ARPU per month.

Although the service providers have been stimulated the usage of services, but when considering the average revenue per number per month in 2016 it is found that the average revenue was decreased approximately 3.80 percent when compared to the previous year due to the fixed-line usage is likely to decline as well as the average service rate. However, the reduction of service rates was unable to help stimulate the usage of fixed-line service and had resulted in a constant decrease of revenues of service providers. Details are shown in Chart 38.

Chart 38: Average revenue per month per number (ARPU) of fixed-line service



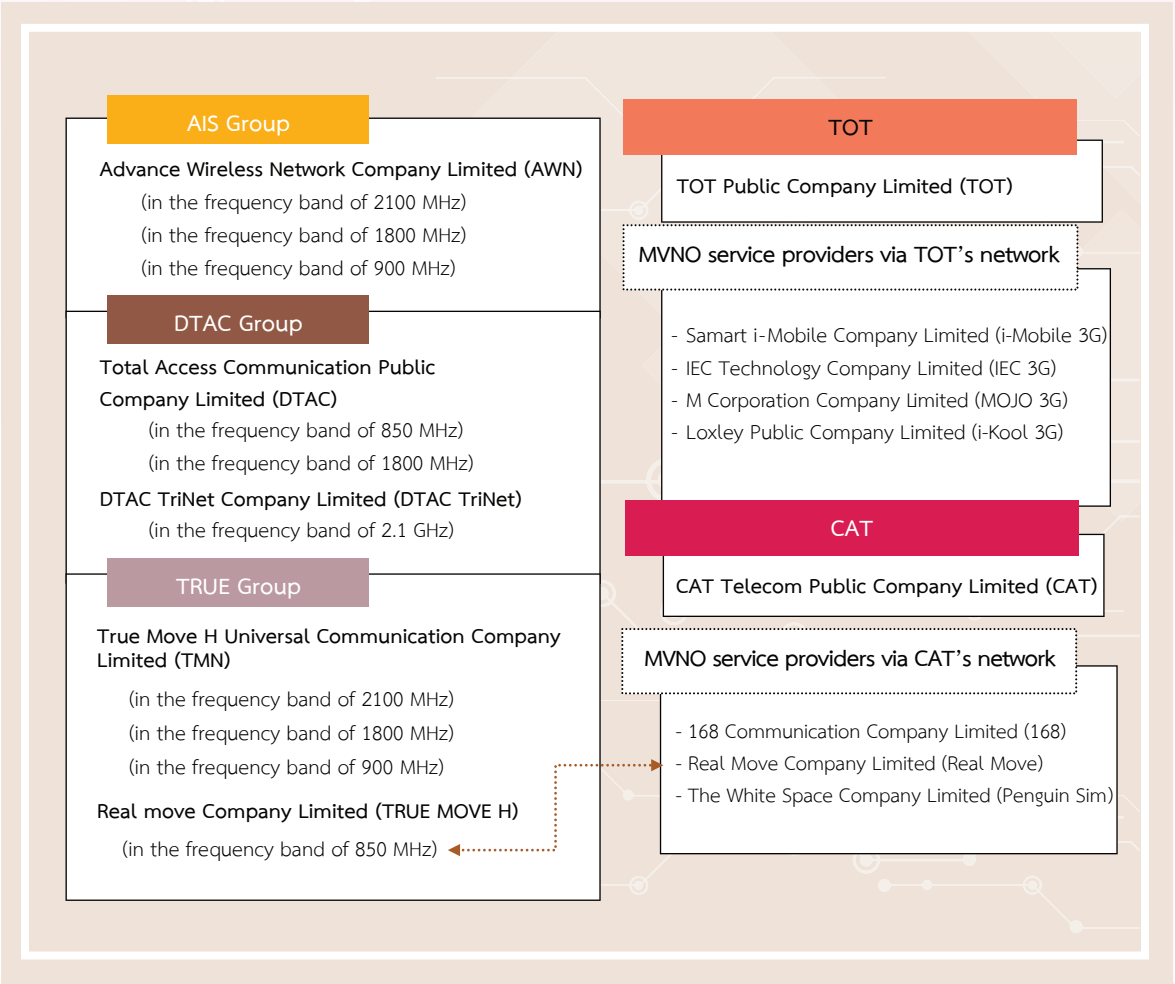
Remarks: * Data as of Q3 of 2016

Source: Telecommunications Policy and Resources Management Bureau, the Office of the NBTC

2.2 Regulation of mobile service rate

There are 17 mobile service providers in Thailand which consisted of 3 groups of private incumbents; namely AIS Group, DTAC Group, and TRUE Mobile Group. There are also other the state-enterprises service providers which consisted of CAT Telecom Public Company Limited (CAT) and TOT Public Company Limited (TOT), and 7 small service providers without having own network. Details are as shown in the following picture.

Mobile service providers in Thailand



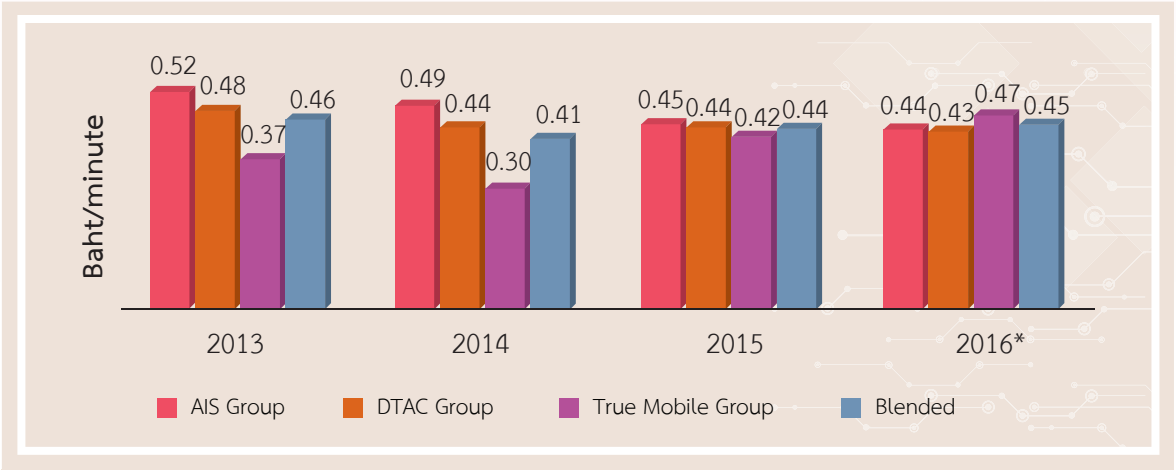
Source: Telecommunications Tariff Bureau, the Office of the NBTC

From the mobile service rate in both voice and non-voice services in 2016, it is found that the average rate of the provision of voice service of each service provider was 0.45 baht/minute in which the True Mobile group had the highest service rate of 0.47 baht/minute and DTAC group had the lowest service rate of 0.43 baht per minute while the AIS group had offered the average service rate of 0.44 baht/minute. It can be seen that, the average rate of voice service comparing to the previous year is likely to increase as the service providers have focused on offering sales promotion of data usage and the behavior of users that emphasizing on calling via inexpensive price of sales promotion has been changed to use more data service through various applications such as Line, Facebook Messenger, Viber, Skype and Bee Talk. In terms of non-voice services such as SMS, MMS and Mobile Internet provided by each service provider, the AIS Group was the service provider who had offered the lowest average SMS rate of 1.00 baht per message while the average rate of MMS and Mobile Internet was 1.83 baht per message and 0.16 baht per Mbps, respectively.

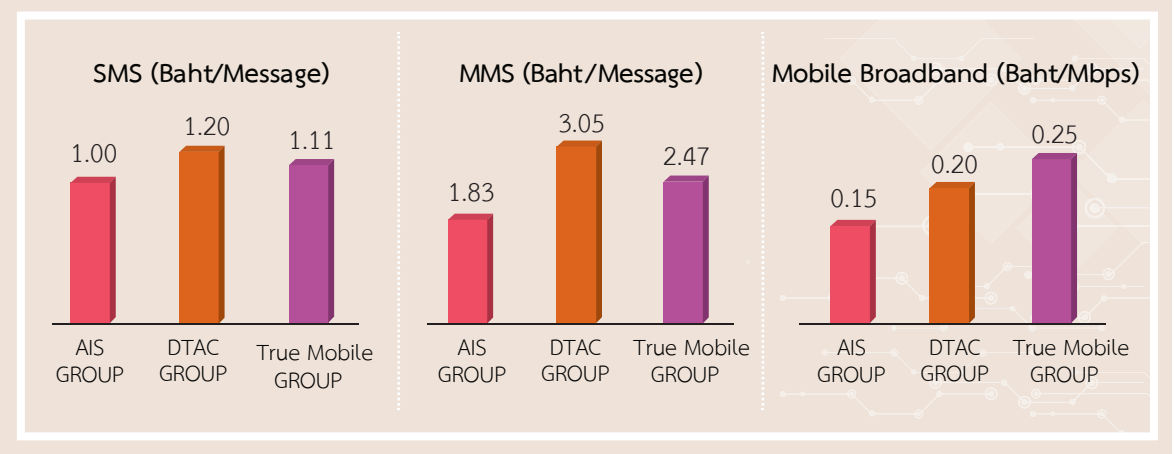
Details are as shown in Chart 39. At present, the service providers have offered their sales promotion in various models such as 1) emphasizing on call only 2) emphasizing on call and surfing internet 3) emphasizing on surfing unlimited internet with an inexpensive price, but internet speed is limited.

Chart 39: Average rate of mobile service

voice service



Non-Voice Service



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Tariff Bureau, the Office of the NBTC

However, according to the licensing conditions, the rate of mobile service in the frequency band of 2.1 GHz, 1800 MHz and 900 MHz has been set as follows: the rate of mobile service in the frequency band of 2.1 GHz must be lower than 15 percent of an average rate of service as of 7 December 2012 that the service provider has been approved, while the average rate of service in the frequency band of 1800 MHz and 900 MHz must be lower than the average rate of service in the frequency band of 2.1 GHz as of 25 August 2015.

For the frequency band of 2.1 GHz, the 3 licensees to use spectrum in the frequency band of 2.1 GHz consisting of Advance Wireless Network Company Limited (AWN)[15], True Move H Universal Communication Company Limited (TUC)[16] and DTAC TriNet Company Limited (DTN)[17] had offered sales promotion continuously by emphasizing on the sales promotion that supported on the users' behavior in each group in which the voice service was between 0.62 – 0.67 baht per minute , decreasing approximately 30-36 percent from an average service rate as of 7 December 2012. For the rate of Mobile Internet, the licensees had offered the service rate at approximately 0.21 – 0.28 baht/Mbps, decreasing approximately 15-36 percent. Details are as shown in Table 44.

Table 44: Average rate of mobile service provision in the frequency band of 2.1 GHz*

	Type of service			
	Voice service	SMS	MMS	Mobile Internet
Average service rate on 7 December 2016	0.97 baht/minute	1.56 baht/message	3.90 baht/message	0.33 baht/MB
Average service rate of the licensees	0.62 - 0.67 baht/minute	1.17 - 1.29 baht/message	2.57 - 3.07 baht/message	0.21 - 0.28 baht/MB

Remarks: * Data as of Q3 of 2016

Source: Telecommunications Tariff Bureau, the Office of the NBTC

For the frequency band of 1800 MHz, there are 2 licensees to use spectrum in the frequency band of 1800 MHz consisting of Advance Wireless Network Company Limited (AWN)[18] and True Move H Universal Communication Company Limited (TUC)[19]. The average rate of voice service was 0.58 baht/minute, which below an average service rate as of 25 August 2015 at approximately 15.92 percent, and the average rate of Mobile Internet was approximately 0.17 baht/Mbps, which below an average service rate as of 25 August 2015 at approximately 34.62 percent. Details are as shown in Table 45.

[15] Service is available on 7 May 2013

[16] Service is available on 8 May 2013

[17] Service is available on 23 July 2013

[18] Service is available on 26 January 2016

[19] Service is available on 25 March 2016

Table 45: Average Rate of mobile phone service in the frequency band of 1800 MHz*

	Type of service			
	Voice service	SMS	MMS	Mobile Internet
Average service rate on 25 August 2015	0.69 baht/minute	1.15 baht/message	3.11 baht/message	0.26 baht/MB
Average service rate of the licensees	0.58 baht/minute	1.05 baht/message	2.12 baht/message	0.17 baht/MB

Remarks: * Data as of Q3 of 2016

Source: Telecommunications Tariff Bureau, the Office of the NBTC

For the frequency band of 900 MHz, there are 2 licensees to use spectrum in the frequency band of 900 MHz consisting of Advance Wireless Network Company Limited (AWN)[20] and True Move H Universal Communication Company Limited (TUC)[21]. The TUC had an average rate of voice service at 0.63 baht/minute which was lower than the average rate of service as of 25 August 2015 at approximately 8.7 percent, and the average rate of Mobile Internet was 0.25 baht/Mbps which was lower than the average rate of service as of 25 August 2015 at approximately 3.85 percent. Details are as shown in Table 46.

Table 46: Average Rate of mobile phone service in the frequency band of 900 MHz*

	Type of service			
	Voice service	SMS	MMS	Mobile Internet
Average service rate on 25 August 2015	0.69 baht/minute	1.15 baht/message	3.11 baht/message	0.26 baht/MB
Average service rate of the licensees	0.63 baht/minute	1.13 baht/message	2.62 baht/message	0.25 baht/MB

Remarks: * Data as of Q3 of 2016

Source: Telecommunications Tariff Bureau, the Office of the NBTC

[20] Service is available on 7 May 2013

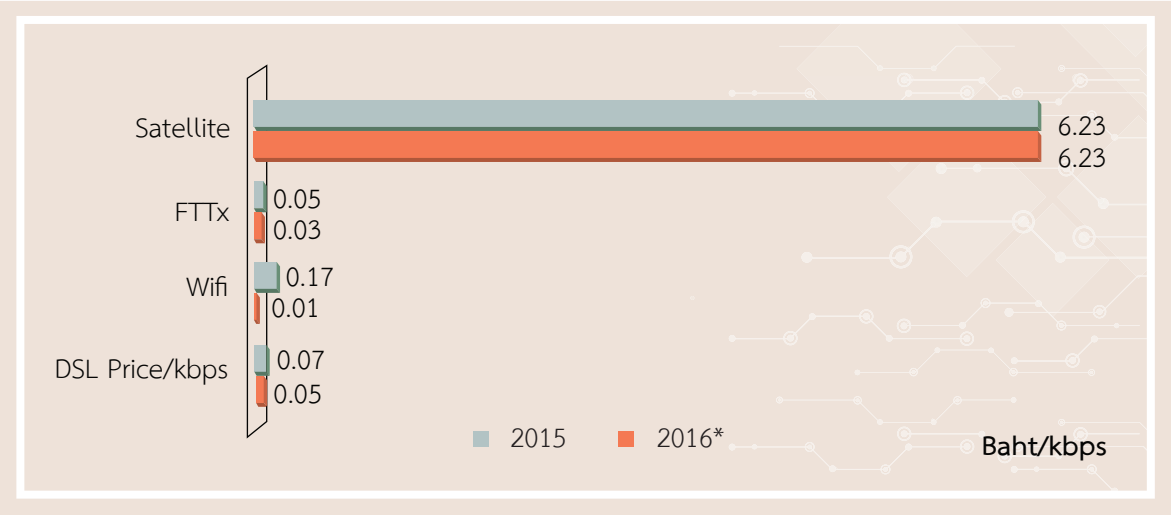
[21] Service is available on 8 May 2013

2.3 Regulation of Broadband Service

At present, the demand for broadband services continues to increase steadily and there are three broadband service incumbents in the market consisting of TOT Public Company Limited (TOT), True Internet Company Limited (True Internet) and Triple T broadband Public Company Limited (3BB). Also, The number of broadband service users has been increased steadily.

Broadband service which is connected via DSL has been provided in a wide range of speed depending on the needs of consumers. The lowest speed of downloading data is 6 Mbps and the highest speed of downloading data is 50 Mbps. The broadband service rate varies to the speed of data transmission. In 2016, a monthly fee of broadband services was in the range of 490-2,799 baht per month. At present, apart from DSL technology, the service providers have invested and expanded their networks for the provision of service via FTTx technology in order to support the increased demand for broadband usage. Broadband service via fiber optic is a popular service and the service has been provided by three major service providers in the market. This is because this type of technology supports the higher speed of data transmission than other technologies in overall. The lowest speed level of downloading data of FTTx technology is 15 Mbps, while the highest speed of data downloading of is 2 Gbps. Having considered the rates of broadband service classified by type of technology in 2015 comparing to the previous year, it is found that the rates of broadband service via FTTx, broadband service via DSL, broadband service through WiFi, and broadband service via Cable Modem have been decreased but the broadband service via satellite has the highest rate with a steady service rate of 6.23 baht per Kbps. Details are shown in Chart 40.

Chart 40: Average service rate of broadband service



Remarks: * Data as of Q3 of 2016

Source: Telecommunications Tariff Bureau, the Office of the NBTC

Trend of broadcasting, television and telecommunications industries in 2017

1. Trend of broadcasting and television market in 2017

In 2017, it is forecasted that there will be high competition on digital TV industry continuously. The development of program content will also be a key factor in competition. Operators need to set their position and try to make a difference in term of a variety of program content. For this reason, in 2017, there will be a trend that content production companies use affiliate marketing strategies to increase a variety of content and create a strong point in order to meet the needs of the audience or to raise funds by acquiring a stake holding of investors with the capital readiness for their investment in the digital TV companies for the development of program content with modern technology. Investors also gain benefit from the use of television media to increase channels for advertising their products and service including the expansion of the existing customers' base to cover more customers of the television channels. For the popularity of has increased in popularity on the watch. It is expected that the original business channel will remain a niche. The most popularity of the viewing, it is expected that the traditional television channels in category of commercial service still be the popular channels due to an advantage of a strong viewers' base as well as a clear direction and presentation of outstanding program contents. However, it is forecasted that the group of new digital television channels will be more popular and able to attract their viewers from the attempt to create a strong points of program contents, pushing forward the soap opera, variety programs, sport programs or news programs by setting strategic plans regarding program production or copyrights purchase of programs to broadcast continuously in order to compete for being in the top ranking of the popularity and being survived in this industry.

For the advertising investment, due to the economic conditions with the declining growth rate, the operators have to slow down their advertising investment. Moreover, the behavior of consumers on viewing has been changed to the more access to media via portable computers whether smart phones or tablets, the consumers therefore turn to view online media or OTT (Over the Top) services through those devices instead of viewing through traditional TV set. This includes the multi screen behavior or the access to internet through electronic devices with a screen simultaneously at the same time in a multi-tasking manner. Therefore, the operators need to plan for advertising budget allocation in order to access to the changing behavior of consumers.

In part of broadcasting service, it is forecasted that the advertising value invested on the FM radio broadcasting stations is likely to decrease and will be more invested on the online media or digital media advertisement due to the changing behavior of Thai people in listening to radio as they can listen to radio through various channels especially the listening through online media and applications which are getting more popular. Thus, the operators/ owners of products or services need to adjust the strategy for managing advertising budget to meet the changing behavior of consumers by finding new marketing channels via online platform including conducting marketing activities in order to access to the lifestyle of targeted audiences.

2. Trend of telecommunications market in 2017

The trend of the telecommunications market is likely to increase in a constant growth rate due to higher competition in telecommunications industry and it encourages the operators to continually develop their sales promotion programs to enhance their strong points including having cooperated with their alliance for providing a more variety of services, such as points collection, giving discounts for goods purchasing, etc. It is expected that in 2017 the market of service will be the main driver of the growth of telecommunications market value which mostly come from mobile service and internet service, especially the mobile service market, where the volume of data usage continues to increase. For the market of communications equipment in the year 2017, there will be a slight increase of investment when compared to the year 2016 such as the change of FTTx technology of fixed internet service, the investment of mobile phone base station in the extension to the existing stations that have not covered the continuous service provision.

Businesses need to improve the capacity for the use through cloud services. In addition, an increase of the use of Smartphone encourages the businesses to change the product presentation or advertising products to be in online model as well in order to access to consumers efficiently. The Over the TOP (OTT) services will grow up with the combination of different applications such as sending messages, pictures, audio, or other media through internet without the involvement with operators. However, these services shall be related to financial transaction which is one of the most popular services that people use through applications such as Internet Banking and Mobile Banking because of a convenient, faster and more efficient service. The Office of the NBTC has cooperated with the Bank of Thailand (BOT) to create a new option for money transfer of people which is more convenient and having a cheaper fee than a traditional money transfer across the banks. It is as secure as the current money transfer service or “Prompt Pay” service.

Consumers must understand and recognize the benefits of using such services to facilitate the payment of goods and services, and to help reducing consumers' time and cost of traveling to do financial transactions as well. However, the payment for goods and services need to be secured and there should be a multi-step verification starting from products presenters to consumers for safety and avoiding fraud which may be occurred. For the Internet of Things (IoTs) service, it is growing in the businesses of health insurance, car insurance and other related insurances. Therefore, the businesses need to change their operating model continuously by presenting more creative models which are more connected to technologies or otherwise the business will get the impact of innovation on the new business model.

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5

Budget Management

Budget Expenditure Report of the Office of the NBTC in 2016

In 2016, the Office of the NBTC had operated under the workplans and expenditure budget plan for totally 5,673.849 million baht. Details are as shown in Table 47.

Table 47: Expenditure budget in 2016

Items		Amount (million baht)
1	Essential expense (minimum)	2,123.550
2	Expense commitment over the previous year	957.462
3	**Budget total (1 + 2)**	**3,081.012**
4	Expenditure budget for new plans/projects	2,061.640
5	Central budget in case of emergencies and necessities	20.000
6	**Expenditure budget total for the NBTC and the Office of the NBTC mission (3 + 4 + 5)**	**5,162.652**
7	Project on the construction of new building of the Office ofthe NBTC	232.798
8	Contribution to the Fund	278.400
Total		**5,673.849**

Source: Strategie and Budget Bureau, the Office of the NBTC

Later on, the Office of the NBTC had adjusted the expenditure budget plan and budget expenditure by having carried out activities according to workplans and projects under the expenditure budget plan in 2016 for the total amount of 4,787.543 million baht, which can be classified into the expenditure budget for the NBTC and Office of the NBTC mission for 4,276.345 million baht or accounting for 100.00 percent, budget for the construction project of new building of the Office of the NBTC for 232.798 million baht or accounting for 100.00 percent and budget for contribution to the fund for 278.400 million baht. Details are as shown in Table 48.

Table 48: Comparison of plan – result of budget expenditure in 2016

Unit : million baht

Items		Fiscal year of 2016		
		Plan	Result	Percent
1	Expenditure budget for the NBTC and the Office of the NBTC mission	4,276.345	4,276.345	100.00
2	Project on the construction of new building of the Office of the NBTC	232.798	232.798	100.00
Total (1 + 2)		**4,509.143**	**4,509.143**	**100.00**
3	Contribution to the Fund	278.400	278.400	100.00
Total		**4,787.543**	**4,787.543**	**100.00**

Source: Strategic and Budget Bureau, the Office of the NBTC

However, from the review of the projects implementation result by postponing or cancelling unnecessarily projects, the expenditure budget plan was reduced and the NBTC could allocate budget for supporting the mission according to the Order of the National Council for Peace and Order on Measure for promoting the broadcasting, television and telecommunications services for the public benefit.

Having compared the result of budget expenditure between the year 2015 to 2016, the Office of the NBTC was able to spend less and more efficient budget. The budget expenditure for the NBTC and the Office of the NBTC mission and the project on the construction of new building of the Office of the NBTC in the year 2015 and 2016 was 88.68 percent and 100.00 percent of the allocated budget, respectively. Details are as shown in Table 49.

Table 49: Comparison of plan – result of budget expenditure between the year 2015 and 2016

Unit : million baht

		Fiscal year 2015			Fiscal year 2016		
	Items	Plan	Result	Percent	Plan	Result	Percent
1	Expenditure budget for the NBTC and the Office of the NBTC mission	4,558.289	4,030.867	88.43	4,276.345	4,276.345	100.00
2	Project on the construction of new building of the Office of the NBTC	100.000	99.89	99.89	232.798	232.798	100.00
Total (1 + 2)		**4,658.112**	**4,130.762**	**88.68**	**4,509.143**	**4,509.143**	**100.00**
3	Contribution to the Fund	164.824	164.824	100.00	278.400	278.400	100.00
4	Budget for the operation according to the government policy	300.000	300.000	100.00			
Total		**5,123.1123**	**4,595.584**	**89.70**	**4,787.543**	**4,787.543**	**100.00**

Source: Strategic and Budget Bureau, the Office of the NBTC

Financial Statements

The Office of the National Broadcasting
and Telecommunications Commission
For the period end on 31 December 2016

The Office of the National Broadcasting and Telecommunications Commission

Financial Statement

As of 31 December 2016

Unit: baht

	Notes	2016	2015
Assets			
Current Assets			
Cash and cash equivalent	2.3, 3	14,687,961,187.66	32,282,162,766.37
Short-term investment	2.4, 4	26,684,818,343.25	9,766,751,220.08
Receivables from license fee	2.5, 5	122,033,156.37	412,261,464.89
Accrued income of long-term debt	2.6, 6	37,160,718,400.00	20,124,037,455.77
Prepaid expenses	7	7,095,737.16	7,483,124.08
Receivables from spectrum and radiocommunications	2.7	28,962,602.02	29,324,699.00
Other current assets	8	189,102,130.02	165,619,225.74
Total current assets		**78,880,691,556.48**	**62,787,639,955.93**
Non-current Assets			
Long-term investments	9	209,517,967.96	205,904,762.48
Accrued revenue	2.6, 6	186,930,470,841.12	67,742,984,000.00
Plant and equipment	2.8, 10	1,409,885,174.42	1,263,681,298.33
Financial lease assets	11	73,366,257.14	133,459,898.41
Intangible fixed asset	2.9, 12	349,644,705.49	348,659,746.84
Other non-current assets (Loan to Ministry of Finance)		12,300,000,000.00	-
Total non-current assets		201,272,884,946.13	69,694,689,706.06
Total Assets		280,153,576,502.61	132,482,329,661.99

Notes to financial statements are an integral part of these financial statements

The financial statement as of 31 December 2016 is to be certified by the Office of the Auditor General of Thailand

The Office of the National Broadcasting and Telecommunications Commission
Financial Statement
As of 31 December 2016

	Notes	2016	Unit: baht 2015
Liabilities and Equity			
Current Liabilities			
Creditors and notes payable	13	438,237,962.12	1,328,171,606.11
Accrued revenue	14	76,304,497.25	1,268,628,280.56
Estimated liabilities for employee benefit	2.14, 15	533,794,680.89	469,987,847.39
State revenue in transit to the Treasury - current portion	2.11, 16	29,281,465,836.86	13,509,472,160.17
Output tax on spectrum auction in transit to the Treasury – current portion	17	1,716,484,000.00	624,610,000.00
Financial lease liabilities – current portion	18	45,312,758.29	62,850,493.26
Other current liabilities	19	263,327,391.67	1,077,882,707.11
Total current liabilities		**32,354,927,127.08**	**18,341,603,094.60**
Non-current Liabilities			
Accrued revenue	2.10, 20	4,843,423,139.36	5,752,680,148.56
Spectrum and radiocommunications equipment rental held in trust	2.7	28,962,602.02	29,324,699.00
State revenue in transit to the Treasury	2.11, 16	174,662,000,000.00	63,311,200,000.00
Output tax on spectrum auction in transit to the Treasury	17	12,268,470,841.12	4,431,784,000.00
Financial lease liabilities	18	30,771,376.16	73,792,758.16
Other non-current liabilities	21	261,211,534.48	248,593,788.84
Total non-current liabilities		**192,094,839,493.14**	**73,847,375,394.56**
Total Liabilities		**224,449,766,620.22**	**92,188,978,489.16**
Equity		198,325,867.44	198,325,867.44
Capital		80,438,577,987.61	60,358,458,630.51
Retained earnings		(24,933,093,972.66)	(20,263,433,325.12)
Other components of equity		**55,703,809,882.39**	**40,293,351,172.83**
Total equity		**280,153,576,502.61**	**132,482,329,661.99**
Total Liabilities and Equity			

Notes to financial statements are an integral part of these financial statements

The financial statement as of 31 December 2016 is to be certified by the Office of the Auditor General of Thailand

The Office of the National Broadcasting and Telecommunications Commission

Revenues and Expenses

For the period end on 31 December 2016

Unit: baht

	Notes	2016	2015
Operating Revenues			
Revenue from telecommunications service	2.12, 22	162,248,929,994.40	90,414,025,308.46
Revenue from broadcasting and television service	23	1,515,953,443.48	5,553,293,081.14
Revenue from the Fund	24	14,190,419,253.05	9,391,362,114.31
Other fees	25	760,890,347.74	1,122,318,132.32
Total revenues		178,716,193,038.67	106,480,998,636.23
Operating Expense			
State revenue to be delivered to the Treasury-spectrum auction	2.12, 26	153,952,315,108.30	80,687,371,558.33
Expense of the spectrum auction	2.12, 27	24,683,340.29	125,793,778.75
Human resources expense	2.17, 28	1,342,309,923.69	1,222,564,462.62
Operating expense	2.17, 29	1,639,435,411.38	2,244,692,900.93
Public Utilities Expense	30	76,438,818.11	149,838,458.87
Depreciation and amortization	31	594,513,008.64	508,215,520.98
Interest expense from financial lease		4,236,403.43	4,246,188.59
Contributions to Education, Research and Development	2.16, 32	366,344,806.72	141,779,112.76
Expense for promoting and supporting the Fund's objectives	33	607,396,861.01	4,948,981,041.37
Contributions to Technology Development Fund for Education		28,400,000.00	10,000,000.00
Total expenses		**158,636,073,681.57**	**90,043,483,023.20**
Net profit for the period		**20,080,119,357.10**	**16,437,515,613.03**
Other Comprehensive Income			
Revenue to be delivered for state revenue		(4,637,455,110.43)	(4,512,500,339.76)
Revenue to be delivered for state revenue -1 Por Nor		(32,205,537.11)	(58,548,643.67)
Radio Station		**(4,669,660,647.54)**	**(4,571,048,983.43)**
Total other comprehensive income		**15,410,458,709.56**	**11,866,466,629.60**
Total comprehensive income for the period			

Notes to financial statements are an integral part of these financial statements

The financial statement as of 31 December 2016 is to be certified by the Office of the Auditor General of Thailand

The Office of the National Broadcasting and Telecommunications Commission

Statement of Changes in Equity

For the year end 31 December 2016

Unit: baht

	Notes	Equity	Retained earnings	Other components of equity	Total
				Revenue over expense to be delivers for state revenue	
Balance as of 31 December 2014		198,325,867.44	43,920,943,017.48	(15,692,384,341.69)	28,426,884,543.23
Net profit for the period		-	16,437,515,613.03	-	16,437,515,613.03
Other comprehensive income		-	-	(4,571,048,983.43)	(4,571,048,983.43)
Balance as of 31 December 2015		198,325,867.44	60,358,458,630.51	(20,263,433,325.12)	40,293,351,172.83
Net profit for the period		-	20,080,119,357.10	-	20,080,119,357.10
Other comprehensive income			-	(4,669,660,647.54)	(4,669,660,647.54)
Balance as of 31 December 2016		198,325,867.44	80,438,577,987.61	(24,933,093,972.66)	55,703,809,882.39

Notes to Financial Statements are an integral part of this Financial Statement

The Office of the National Broadcasting and Telecommunications Commission
Cash Flow Statement
For the year end 31 December 2016

Unit: baht

	2016	2015
Cash flow from operating activities		
Net profit for the period	20,080,119,357.10	16,437,515,613.03
Reconciled the revenue over net expense to net cash (expense)		
from operating activities		
Depreciation and amortization	594,513,008.64	508,215,520.98
Deferred revenue from donation	(11,619,522.66)	(11,595,571.60)
doubtful accounts	414,603.00	404,517,496.88
Interest revenue	(676,639,367.81)	(917,903,051.69)
(Profit) Loss from the amortization of plant and equipment	-	(217,787.74)
Interest expense	4,236,403.43	4,246,188.59
Profit from operating activities before change in assets and liabilities from operating activities	19,991,024,481.70	16,424,778,408.45
Decrease (increase) of change of operating assets		
Fee receivable	289,813,705.52	(737,551,897.09)
Accrued revenue	(136,224,167,785.35)	(25,315,578,813.17)
Prepaid expenses	387,386.92	(405,484.91)
Spectrum and radiocommunications equipment rental debtor	362,096.98	2,304,810.86
Other current assets	121,819,120.96	(64,931,445.88)
Decrease (increase) of change of operating liabilities		
Creditors and note payables	(889,933,643.99)	84,473,577.95
Advance income	(1,192,323,783.31)	1,207,877,812.32
State revenue in transit to the Treasury	127,122,793,676.69	24,000,164,867.85
Estimated liabilities for employee benefit	63,806,833.50	77,936,738.94
Other current assets	(814,555,315.44)	26,901,815.63
Deferred income	(897,637,486.54)	(4,845,790,650.00)
Spectrum and radiocommunications equipment rental held in trust	(362,096.98)	(2,304,810,86)
Output tax on spectrum auction in transit from spectrum auction	8,928,560,841.12	1,548,970,500.00
Financial lease liabilities	(64,795,520.40)	(2,656,896.67)
Other non-current liabilities	12,617,745.64	174,267,320.83
Net Cash from Operating Activities	16,447,410,257.02	12,578,455,854.25
Net Cash for Investing Activities		
Cash expense for short-term investment	(16,918,067,123.17)	8,991,334,725.33
Cash receivable from long-term investment	(3,613,205.48)	(3,938,345.13)
Cash receivable from interest	531,337,342.57	923,946,727.91
Cash expense for long-term investment	(12,300,000,000.00)	-
Cash expense for plant and equipment	(473,135,118.24)	(336,508,627.83)
Cash expense for financial lease assets	(3,790,365.08)	(65,560,793.31)
Cash expense for in tangible assets	(204,682,718.79)	(220,630,157.43)
Net Cash from (for) Investing Activities	(29,371,951,188.19)	9,288,643,529.54

The Office of the National Broadcasting and Telecommunications Commission

Cash Flow Statement

For the year end 31 December 2016

Unit: baht

	2016	2015
Cash Flow from Monetary Acquiring Activities		
Surplus to be remitted as state revenue	(4,669,660,647.54)	(4,571,048,983.43)
Net cash expense for monetary acquiring activities	(4,669,660,647.54)	(4,571,048,983.43)
Increase in net cash and cash equivalents	(17,594,201,578.71)	17,296, 050,400.36
Cash and cash equivalents at the beginning of accounting period	**32,282,162,766.37**	**14,986,112,366.01**
Cash and cash equivalents at the ending of accounting period	**14,687,961,187.66**	**32,282,162,766.37**

Notes to Financial Statements are an integral part of this Financial Statement

The Office of the National Broadcasting and Telecommunications Commission Notes to Financial Statements for the year end as of 31 December 2016 (Unit: million baht, except being specified)

1. General Information

The Office of the National Broadcasting and Telecommunications Commission or "the Office of the NBTC" is a juristic person having a status of a State agency, established by virtue of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010) (the Act on the Organization) to have duties and powers in regulating and developing the broadcasting, television and telecommunications services. The National Broadcasting and Telecommunications Commission, called in short "the NBTC", has set up policies, criteria, procedures, conditions, fees, and other rules on matters related to licensing and regulation of spectrum usage, provision of broadcasting and telecommunication services, numbers usage, telecommunications network interconnection or access, prevention of monopoly or unfair competition, consumers protection as well as provision of broadcasting and telecommunications services to the public. A fund shall also be established under the Office of the NBTC called the "Broadcasting and Telecommunications Research and Development Fund for the Public Interest".

The Headquater of the Office of the NBTC is located at 87 Soi 8 (Sai Lom), Phaholyothin Road, Sam Sen Nai, Phayathai, Bangkok 10400.

The Office of NBTC's revenues is under Section 65 of the Act on the Organization which shall be derived from the followings:

(1) Spectrum license fees and business license fees under Section 42 paragraph 2 and Section 45 paragraph 3.

(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. Accounting Policies

The major policies of accounting to be used in the preparation of financial statements of the Office are as follows:

2.1 Criteria for financial statement preparation

The financial statement of the Office of the NBTC have been prepared in accordance with the general accepted accounting principles including the accounting standards issued under the Accounting Professions Act B.E. 2547 (2004) including the interpretation and accounting practical guidelines promulgated by Federation of Professions.

The financial statement will be 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

Significant transactions occurred between the Office of the NBTC and the Funds under the Office of the NBTC was eliminated in the preparation of financial statements.

2.2 The standards of financial statement, the interpretation of accounting standards and the interpretation of financial statement have been effective in the current period and in the future. The details are as follows:

Having been effective in the accounting period starting from or after 1 January 2016.

Accounting standards No. 1 (amended in 2015)	on Financial Statement Presentation
Accounting standards No. 7 (amended in 2015)	on Cash Flow Statement
Accounting standards No. 8 (amended in 2015)	on Accounting policies, change of accounting forecast and errors
Accounting standards No. 10 (amended in 2015)	on Situation after reporting period
Accounting standards No. 16 (amended in 2015)	on Land, plant and equipment
Accounting standards No. 17 (amended in 2015)	on Lease agreement
Accounting standards No. 18 (amended in 2015)	on Revenue
Accounting standards No. 19 (amended in 2015)	on Employee Benefit
Accounting standards No. 36 (amended in 2015)	on Impairment of Assets
Accounting standards No. 37 (amended in 2015)	on Estimated liabilities, contingent liabilities, and contingent assets
Accounting standards No. 38 (amended in 2015)	on Intangible assets
Accounting standard No. 10 (amended in 2015)	on Consolidated financial statement
Interpretations of financial statement No. 21	on Money to be delivered to the State

has been effective on or after 1 January 2017

Accounting standards No. 1 (amended in 2016)	on Presentation of financial statement
Accounting standards No. 7 (amended in 2015)	on Cash flow statement
Accounting standards No. 8 (amended in 2015)	on Accounting policies, change of accounting forecast and errors
Accounting standards No. 10 (amended in 2015)	on Situation after reporting period
Accounting standards No. 16 (amended in 2016)	on Land, plant and equipment
Accounting standards No. 17 (amended in 2015)	on Lease agreement
Accounting standards No. 18 (amended in 2015)	on Revenue
Accounting standards No. 19 (amended in 2016)	on Employee Benefit
Accounting standards No. 36 (amended in 2015)	on Impairment of Assets
Accounting standards No. 37 (amended in 2015)	on Estimated liabilities, contingent liabilities, and contingent assets
Accounting standards No. 38 (amended in 2016)	on Intangible assets
Accounting standard No. 10 (amended in 2016)	on Consolidated financial statement
Interpretations of financial statement No. 21	on Money to be delivered to the State

The Federation of Accounting Professions under the Royal Patronage of His Majesty the King has issued Accounting Standards, Standards of Financial Report, new Interpretations of Standards of Financial Report and the amendments which have been effective on the accounting period beginning on or after 1 January 2016. The Management had assessed the impact of standards and interpretations of such standards and believed that most of them are unchanged in important principles, and will not have any significant impact on the financial statements.

2.3 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.

2.4 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 no longer than 12 months.

2.5 Fee Receivables

Fee receivables are shown by estimated net value receivable after deducting the doubtful debts which is estimated from reviewing of outstanding balances at the end of accounting periods.

Allowance for doubtful accounts refers to the difference between the receivable book value comparing to receivable realizable value, doubtful account will be recognized in the statement of comprehensive income and will be considered as an integral part of the expenses.

2.6 Accrued income

Accrued income refers to the annual license fee revenue, calculating from the revenue from the business operation taken in the accounting period of the licensee. The payable will be made once a year, within one hundred and fifty days from the end of the accounting period according to the NBTC Notification on Broadcasting Business License Fee B.E. 2555 (2012) and the NBTC Notification on Telecommunications Business License Fee including the revenue from spectrum auction according to Section 45, Paragraph One, and the Announcement of the National Council for Peace and Order No.80/2014.

2.7 Receivables of radiocommunications equipment rental and spectrum fees

The receivables of radiocommunications equipment rental and spectrum fees are the receivables that the Office of the NBTC collected from debtors on behalf of the Ministry of Finance. The entry will be recorded in double with the radiocommunications

equipment rental and spectrum receivables account. When the amount is paid by the debtors, the recorded entry of radiocommunications equipment rental and spectrum fees account will be transferred to the account of state revenues in transit to the Treasury - the radiocommunications equipment rental and violation fees.

2.8 Plant and equipment

2.8.1 Assets owned by the authority

Plant and equipment shown by cost price deducted by accumulated depreciation and losses result from accumulated impairment.

Cost price includes direct costs associated with acquisition of assets, the cost of construction, the property constructed by the authority itself. This includes the cost of materials, direct labor and other direct costs related to the supply of assets so that those assets are in the right place and ready to be used.

The components of each building and equipment which are varied and different in the use must be recorded separately from each other.

Profits or losses on disposals of plant and equipment are the difference between net returns receiving from the disposals and accounting value of plant and equipment. The net amount will be recognized as income or expense in profits or losses.

2.8.2 Leased assets

The leases that an authority may take the risks and remuneration of possessing the leased assets can be classified by financial lease, plant and equipment acquired through financial lease contracts are recorded as assets by current value of the minimum amount to be paid according to the lease contract, depending on less amount may be, deducted by the accumulated depreciation and losses from accumulated impairment.

The rentals to be paid will be classified into finance expenses and deduction from the liabilities under the lease contract to ensure that the rate of interest, when compared to the outstanding liabilities in each period, is a fixed rate. Finance expenses will be directly recorded on profits or losses.

Costs incurred afterward

The cost of replacing components is recognized as a part of the accounting value of the item of plant and equipment. If there is a possibility that the authority will get the future economy-based benefits from that item and be able to reliably measure the cost value of the item, the replaced component will be deleted from the account by the accounting cost value incurred in the regular maintenance of plant and equipment and will be recognized on profits or losses upon the occurrence.

Depreciation is calculated by using a straight line basis over the estimated useful lives as follows:

Type of Asset	Estimated Useful Lives (Year)
Plant and its addition	5 - 20
Electrical and radio equipment	5
Computer equipment	3
Vehicles and transportation	8
Office supplies and others	2 - 15

Guidelines for the Recognition of Plant and Equipment

1997 - 2002
- Durable articles and equipment to be recognized as assets must have historical cost from purchasing or acquisition at price per unit, set, or group not less than 30,000.00 baht.
- Durable articles and equipment that purchased or acquired before the year 2007 do not beat the price but shall be registered in Asset Control

2003 - 2007
- Durable articles and equipment to be recognized as assets must have historical cost from purchasing or acquisition not less than 5,000.00 baht and must be classified in the standard durable articles account of the Office of the NTC in which the existing guidelines has not yet been amended.

2008 - Present
- Durable articles and equipment to be recognized as assets must have historical cost from purchasing or acquisition not less than 10,000.00 baht and must be classified in the standard durable articles account of the Office of the NTC in which the existing guidelines has not yet been amended.

2.9 Net Intangible Asset

Net intangible assets will be recorded at cost after deducting accumulated amortization and allowance for impairment losses. The amortization is calculated by using the straight line method according to the estimated useful lives of the intangible assets.

The criteria for the recognition of intangible assets

2010 - 2013 Intangible assets of computer program to be recognized as assets must have its value of not less than 50,000.00 baht

2014 - Present Intangible assets of computer program to be recognized as assets must have its value of not less than 30,000.00 baht

2.10 Deferred income

- Fixed assets receiving from donation will be recorded as assets together with deferred income, and will be recognized as revenue from donation together with deducting depreciation of the assets receiving from donation according to their useful lives.

- The revenue from spectrum auction for the provision of digital TV services will be recognized as deferred income based on the actual costs of each period in relation to the operation on supporting people to receive universal digital television service. The unrecognized income will be shown as liabilities in the deferred income account.

2.11 Surplus to be delivered as state revenue

Surplus to be remitted as state revenue, revenue or benefits accrued from the operation under powers and duties of the NBTC and the Office of the NBTC in any year which had been received in a year after deducting the operating expenses of the NBTC and the Office of the NBTC and other necessary burdens or obligation expenses including the reserved budget for overlapped disbursement between the fiscal years and contributions to the Funds as prescribed by law, the rest must be remitted as state revenue. Also, the residual money from necessary obligations expenses in the previous years in which the operation could not be completed within two years must be remitted as the state revenue.

2.12 The revenue from spectrum auction for the provision of IMT service in band of 2.1 GHz after deducting the cost of the auction preparation including interests must be submitted as state revenue according to the Act on the Organization, Section 45 Paragraph 1.

2.13 License fees for the use of spectrum for the provision of digital television services, in category of national commercial services, shall be submitted to the Research and Development of Broadcasting and Telecommunications Fund for the Public Interest. However, the fee in part of minimum price will be used for supporting the public to access to the digital telecommunications services thoroughly according to the NBTC Notification on Criteria, Procedures and Conditions for the Spectrum Auction for the Provision of Digital Television Services, Category of National Commercial Services B.E. 2556 (2013) and Section 53 (2) of the Act on the Organization B.E. 2553 (2010).

However, for the license fee to use the spectrum for the provision of commercial services in national level, after deducting the expenses, the rest revenue must be submitted as state revenue according to the Announcement of the National Council for Peace and Order No.80/2014, and prior to the date of enforcement of the Notification, if the license fee revenue have not yet been submitted to the Research and Development Fund, it must be submitted as state revenue within fifteen days starting from the date of enforcement of the Notification.

2.14 Employee Benefit

The Office of the NBTC is not subject to the Labour Protection Act, Labour Relations Act, Social Security Act, and Compensation Act. The Office of the NBTC has its regulations regarding employee benefits as follows:

Welfare Fund: The Office of the NBTC has provided its staff and employees with the basic welfare and social insurance, at least, to support the children's education, healthcare, the disaster victims, assistance in case of death, compensation, and other welfares such as welfare loan, housing welfare, sport and entertainment welfare, and other welfares which are to promote the quality of life, as well as other types of the support as appropriate and necessary, apart from being prescribed under the Office of the NBTC Regulations regarding Benefit and Welfare B.E. 2550 (2007) and B.E. 2551 (2008).

The pension for the officers is the pension according to the Office of the NBTC Regulation regarding the Officers Pension and Assistance after Retirement B.E. 2555 (2012). The regular pension will be paid by calculating from the duration of being served the organization multiply by last salary, and extra pension will be paid in 24 times of the last salary by the time of being harm or sick or getting injured to disabled due to operating duties, and 30 times of the last salary when an officer died due to operating duties. The payment of the pension will be disburse from the Pension Fund established by the Office of the NBTC in which the source of revenue is from the initial money and budget allocated from the Annual Expenditure Budget to be adequate for the burden of pension to be paid at the end of the accounting period, including the benefits of pension.

The provident fund money is the money that the Office of the NBTC has contributed to the Provident Fund in amount of 10 percent of the officers' salary according to the Office of the NBTC Regulations under the Provident Fund of the Office of the NBTC which has been established under the Office of the NBTC Regulation regarding the Provident Fund of the Officers of the Office of NBTC B.E. 2549 (2006).

2.15 Revenue Recognition

The Office of the NBTC had recognized the revenue in each type as follows:

- Revenue from the spectrum auction, Section 41, Paragraph Two, and Section 45, Paragraph Two under the Organization Act B.E. 2553 (2010) has been recognized on an accrual basis according to the content of relevant agreements.

- Revenue from the remuneration for spectrum usage for radiocommunications has been recognized on an accrual basis.

- Revenue from license fee under the Radiocommunications Act has been recognized upon the receipt of forms and fees.

- Revenue from business license fee has been recognized on an accrual basis

- Revenue from numbering fee has been recognized monthly on an accrual basis

- Revenue from license fee for spectrum transfer has been recognized upon the receipt of forms and fees

- Revenue from application fee has been recognized according to revenue category of the application upon the receipt of the application and fee

- Revenue from the contributions to the Broadcasting and Telecommunications Development Fund for the Public Benefit (for the expense in USO projects) is the revenue to be delivered to the Fund according to the Broadcasting Service Act and Telecommunications Business Act which has been recognized on an accrual basis.

- Revenue from Por Nor 1 Radio Broadcasting Station has been recognized monthly on an accrual basis

- Revenue from other fees has been recognized upon the receipt of forms and fees

- Revenue from interest receivables has been recognized on proportion of time basis

- Other revenues apart from the above-mentioned revenue have been recognized on an accrual basis

2.16 The contribution for education, research and development has been recognized as an expense when it is approved to be paid to the right holder. The unpaid money to be delivered back within the period will be deducted from the total expense of the contributions. If the money were delivered after the year of disbursement, it will be recorded as unpaid and return revenue of the contribution for education, research and development showing as other non-operating revenue. These guidelines include the expense with similar items.

2.17 The Expenditure of the Broadcasting and Telecommunications Development Fund for the Public Interest, such as the asset for the Fund Management, personnel expenses, meeting remuneration for the committees, expense of public relations activities, expense for organizing meetings, material cost for the Fund management, cost for public utilities, etc., shall be disbursed by the Office of the NBTC according to the Fund's Regulation.

3. Cash and Cash Equivalents

Unit: million baht

	31 Dec 16	31 Dec 15
Cash	0.06	0.22
Petty cash	0.49	0.33
Receivable cheque	0.68	0.13
Bank deposits		
Current account	38.37	14.17
Saving account	7,956.93	22,044.68
Fixed deposit account for 3-month term	6,691.43	10,222.63
Total	14,687.96	32,282.16
Cash and Cash Equivalents included		
Cash from the revenue gained under Section 65 (1-2)	8,665.17	8,061.52
Cash and cash equivalents from the revenue gained under Section 65 (3-5)	94.70	67.54
Cash and cash equivalents of the Fund	5,677.21	22,352.93
Cash and cash equivalents from trust money, guarantee deposits, and others	250.88	1,800.17
	14,687.96	32,282.16

The cash and cash equivalents of the Office of the NBTC as of 31 December 2016 and 2015 at the amount of 14,687.96 and 32,282.16 million baht had included the deposits from the Research and Development Fund (Old) of 20.72 and 20.81 million baht (included the interests receivable) respectively for the expense of the obligation of the old Fund.

4. Short-term Investments

Unit: million baht

	31 Dec 16	31 Dec 15
3-12 month fixed-deposit account	26,684.82	9,766.75
Total Short-term Investments	26,684.82	9,766.75
Short-term Investments included		
Short-term investment from the revenue gained under Section 65 (1-2)	0.02	0.02
Short-term investment from the revenue gained under Section 65 (3-5)	4.79	-
Short-term investment of the Research and Development Fund	26,140.00	9,550.00
Short-term investment from the trust money	540.01	216.73
	26,684.82	9,766.75

Short-term investment as of 31 December 2016 and 2015 at the amount of 26,684.82 and 9,766.75 million baht had included a deposit in a commercial bank with the obligation to hold deposits of 204.96 million baht to maintain a deposit for employee housing loans.

5. Fees Receivable

Unit: million baht

	31 Dec 16	31 Dec 15
Receivable from remuneration of radio frequency usage	0.06	0.04
Receivable from numbering fee	790.56	789.94
Receivable from business license fee	0.43	0.43
Receivable from TV digital spectrum auction	-	288.47
Trading Receivable	29.89	31.86
Less doubtful accounts	(698.91)	(698.48)
Total	122.03	412.26

The Debtors of numbering fee as of 31 December 2016 and 2015 at the amount of 790.56 and 789.94 million baht respectively, had included numbering fee of True Move Company Limited since 1 March 2014 to 31 December 2015 for 647.29 million baht and surcharge for 141.13 million baht and the total was 788.42 million baht. However, True Move has not yet paid for the numbering fee to the Office of the NBTC with the reason that the company must operate under the NBTC Notification on Measures for Protecting Users in Temporary Period in case of Termination of the Concession or Contract for Mobile Phone Service Provision B.E. 2556 (2013). The Notification has limited True Move's rights in taking benefits from the inactivate numbers which having the company resulted on the burden for bearing the telecommunications numbering fees. However, True Move is able to include the telecommunications numbering fees to the cost to be deducted from the operating revenue. Therefore, it has requested the Office of the NBTC to consider the exception of all telecommunications numbering fees since 16 September 2013 (staring from the date of the concession terminated) onwards. For the telecommunications numbering fees from 16 September 2013 to 28 February 2014 at the amount of 190.97 million baht that True Move had already paid to the Office of the NBTC, the company has submitted a letter to the Office of the NBTC requesting for the refundable fees. Later on, the Telecommunications Commissions had the Resolution in the Meeting No.12/2014 dated 7 May 2014 disagreed to approve the request for the exception of telecommunications numbering fee of True Move and the Meeting No. 26/2014 dated 14 October 2014 agreed to assign the Office of the NBTC to proceed under legal processes on 31 August 2015 the Office of the NBTC has submitted the case to the attorney of the Office of Civil Litigation for further proceeding against True Move.

6. Accrued Incomes

Unit: million baht

	31 Dec 16	31 Dec 15
Current portion		
Accrued income of revenue from spectrum auction in the frequency band of 1800 MHz	21,608.12	-
Accrued income of revenue from spectrum auction of Digital TV	4,629.56	9,259.14
Accrued income of revenue from business license fee	5,569.15	5,735.65
Accrued income of revenue from the contributions to the USO Fund	5,353.88	5,129.25
Including current portion	37,160.71	20,124.04
Current portion of long-term debts		
Accrued income of revenue from spectrum auction in the frequency band of 900 MHz	145,425.18	-
Accrued income of revenue from spectrum auction in the frequency band of 1800 MHz	21,608.11	43,216.23
Accrued income of revenue from spectrum auction of Digital TV	19,897.19	24,526.75
Inclusion of current portion of long-term debts	186,930.48	67,742.98
Total	224,091.19	87,867.02

The Accrued income as of 31 December 2016 and 2015 at the amount of 224,091.19 and 87,867.02 million baht respectively, consisting of accrued income of revenue from spectrum auction in the frequency band of 900 MHz as of 31 December 2016 for 145,425.17 million baht, the accrued income of revenue from spectrum auction in the frequency band of 1800 MHz as of 31 December 2016 and 2015 for 43,216.23 and 43,216.23 million baht, and the accrued income of revenue from spectrum auction of Digital TV as of 31 December 2016 and 2015 for 24,526.75 and 33,785.89 million baht, respectively. However, the licensees have brought the letters of guarantee issued by the financial institution in type of commercial bank under the Financial Institutions Business Act B.E. 2551 (2008), to guarantee the payment for the remaining amount of an accrued income from the spectrum auction according to the NBTC Notification. However, the Head of National Council for Peace and Order has its Order No.76/2016 on Measure for promoting the broadcasting, television and telecommunications business for the public benefit to extend the payment period of license fee to use the spectrum in the remaining amount plus interest of the amount to be paid at the interest rate set by the Monetary Policy Committee of Bank of Thailand.

The Accrued income of revenue from business license fee as of 31 December 2016 and 2015 at the amount of 5,569.15 and 5,735.65 million baht, respectively, is the revenue that the Office of the NBTC charged from the operators in progressive rate of revenue in which the operators have to pay those amount within 150 days starting from the end of the accounting period. The accrued income of revenue from business license fee as of 31 December 2015 at the amount of 5,735.65 million baht had already been received by the Office of the NBTC.

The Accrued income of revenue from the contribution to the USO Fund as of 31 December 2016 and 2015 at the amount of 5,353.88 and 5,129.25 million baht is the forecast of revenue that the Fund will receive from telecommunications licensees for the 2nd round (July - December) of the year 2015 by calculating from the value of revenue base of telecommunications business operation in each round of the revenue deliverance according to the practical guidelines prescribed by the Fund.

7. Prepaid Expenses

Unit: million baht

	31 Dec 16	31 Dec 15
Prepaid expense on land rental	6.44	6.52
Other prepaid expenses	0.66	0.96
Total	7.10	7.48

8. Other Current Assets

Unit: million baht

	31 Dec 16	31 Dec 15
Suspended input tax	25.06	23.87
Advance loans debtors	4.89	8.34
Accrued interest receivable	145.30	68.73
Advance deposit	6.16	59.27
Other current assets	7.69	5.41
Total	189.10	165.62

The most of accrued interest receivable at the amount of 145.30 and 68.73 million baht is an accrued bank deposit interest receivable of the Research and Development Fund for 139.40 and 59.53 million baht, respectively.

The advance deposit as of 31 December 2015 at the amount of 59.27 million baht is the advance No deposit for the supply of 32 sets of remote control radio monitoring station according to the contract. 212/2014 dated 16 February 2014 and 213/2014 dated 16 February 2014.

9. Long-term Investment Fund

Unit: million baht

	31 Dec 16	31 Dec 15
Fixed-deposit account for more than 12-month	209.52	205.90
Total	209.52	205.90

The long-term investment fund as of 31 December 2016 and 2015 at the amount of 209.52 and 205.90 million baht respectively, is a commercial bank deposits with the obligation at the amount of 195.04 million baht to hold deposits for housing loans of employees.



10. Plant and equipment

Items	31 Dec 16							31 Dec 15
	Building and its improvement	Electrical and radio equipment	Computer equipment	Vehicles and transportation equipment	Office supplies and others	In process activities	Total	Total
Cost value								
Bring forward at the beginning of period	859.68	1,112.58	817.61	179.44	300.54	222.80	3,492.65	3,157.32
Increase during the period	2.98	456.25	41.65	4.30	35.65	473.15	1,013.98	1,075.50
Decrease during the period	-	-	-	-	-	(540.82)	(540.82)	(740.17)
Balance at the end of period	862.66	1,568.83	859.26	183.74	336.19	155.13	3,965.81	3,492.65
Accumulated depreciation								
Bring forward at the beginning of period	472.33	810.77	621.23	136.41	188.23	-	2,228.97	1,955.53
Increase during the period	40.47	127.60	108.94	17.52	32.42	-	326.95	302.70
Decrease during the period	-	-	-	-	-	-	-	(29.26)
Balance at the end of period	512.80	938.37	730.17	153.93	220.65	-	2,555.92	2,228.97
Book value								
As of 31 December 2016	349.86	630.46	129.09	29.81	115.54	155.13	1,409.89	-
As of 31 December 2015	387.35	301.81	196.38	43.03	112.31	222.80	-	1,263.68

11. Assets under the financial lease contract

Unit: million baht

	Bring forward as of 31 Dec 15	During the period Increase	Decrease	Balance as of 31 Dec 16
Capital cost				
Vehicle equipment and transportation	174.70	3.79	-	178.49
Computer software	101.75	-	-	101.75
Total	276.45	3.79	-	280.24
Less Accumulated amortization				
Vehicle equipment and transportation	101.57	35.90	-	137.47
Computer software	41.42	27.98	-	69.40
Total	142.99	63.88	-	206.87
Book value	133.46	60.09	-	73.37

12. Intangible Asset

Unit: million baht

	Bring forward as of 31 Dec 15	During the period Increase	Decrease	Balance as of 31 Dec 16
Computer programs	638.21	204.68	-	842.89
Less Accumulated amortization	(289.55)	(203.70)	-	(493.25)
Total	348.66	(0.98)	-	349.64

13. Creditors and Notes Payable

Unit: million baht

	31 Dec 16	31 Dec 15
Creditors	434.15	1,321.24
Credit card payable	0.18	0.74
Cheques not yet cashed	3.91	6.19
Total	438.24	1,328.17

The creditors as of 31 December 2015 for 1,321.24 million baht are the creditors of the Research and Development Fund for the amount of 850.61 million baht. Most of them are the participants to the project for supporting the public in the transition to digital terrestrial television switch-over who had collected coupons receiving from the people on their redemption or reduction of the 690 baht coupon for purchasing Set-Top-Box for viewing digital terrestrial television for having reimbursed with the Research and Development Fund in 2015 at the amount of 837.96 million baht. The money will be paid by the Fund to each operator after completing the verification of the accuracy of the documents of disbursements.

14. Advance Revenues

Unit: million baht

	31 Dec 16	31 Dec 15
Advance remuneration for radiocommunications	62.84	53.26
Advance revenue from spectrum auction in the frequency band of 900 MHz	-	1,203.74
Advance numbering fee	4.58	3.44
Others	8.88	8.19
Total	76.30	1,268.63

15. Liabilities Estimation for Employee Benefits

Unit: million baht

	31 Dec 16	31 Dec 15
Bring forward	469.99	392.05
Increase Liabilities estimation for employee benefits during the period	80.80	97.98
Less payable of liabilities for employee benefits when resigning from the work	(17.00)	(20.04)
Balance	533.79	469.99

16. Assets under the financial lease contract

Unit: million baht

	Bring forward As of 31 Dec 15	During the period Deferred transit Increase/Decrease	During the period Being delivered	Balance as of 31 Dec 16
Current portion				
Radiocommunications equipment rental and violation fees	1.05	0.36	1.05	0.36
Fines	6.51	5.35	6.51	5.35
Revenue from spectrum auction in frequency band of 900 MHz	-	16,000.40	15,986.48	13.92
Revenue from spectrum auction in frequency band of 1800 MHz	7.86	20,195.42	-	20,203.28
Revenue from Digital TV spectrum auction	8,923.00	4,352.79	8,943.95	4,331.84
Revenue from pretty numbers auction	-	57.05	-	57.05
Revenue from the payment for recovering auction damages	-	798.52	798.52	-
Revenue from 1 Por Nor Radio Broadcasting Station	58.55	32.21	58.55	32.21
Surplus to be delivered as state revenue in 2015	4,512.50	-	4,512.50	-
Surplus to be delivered as state revenue in 2015	-	4,637.46	-	4,637.46
Inclusion of current portion	13,509.47	46,079.56	30,307.56	29,281.47
Current portion of long-term debts				
Revenue from spectrum auction in the frequency band of 900 MHz	-	135,872.00	-	135,872.00
Revenue from spectrum auction in the frequency band of 1800 MHz	40,389.00	-	20,194.50	20,194.50
Revenue from Digital TV spectrum auction	22,922.20	-	4,326.70	18,595.50
Inclusion of current portion of long-term debts	63,311.20	135,872.00	24,521.20	174,662.00
Total	76,820.67	181,951.56	54,828.76	203,943.47

17. Other Current Assets

Unit: million baht

	31 Dec 16	31 Dec 15
Current portion		
Spectrum auction in the frequency band of 1800 MHz	1,413.62	-
Revenue from Digital TV spectrum auction	302.86	624.61
Inclusion of current portion	1,716.48	624.61
Current portion of long-term debts		
Spectrum auction in the frequency band of 900 MHz	9,553.17	-
Spectrum auction in the frequency band of 1800 MHz	1,413.62	2,827.23
Digital TV spectrum auction	1,301.68	1,604.55
Inclusion of current portion of long-term debts	12,268.47	4,431.78
Total	13,984.95	5,056.39

18. Financial Lease Liabilities

Unit: million baht

	31 Dec 16	31 Dec 15
Current portion		
Value of liabilities	47.39	67.06
Interest	(2.08)	(4.21)
Inclusion of current portion (current value)	45.31	62.85
Current portion of long-term debts		
Value of liabilities	31.50	76.42
Interest	(0.73)	(2.63)
Inclusion of current portion of long-term debts (current value)	30.77	73.79
Total	76.08	136.64

19. Other Current Liabilities

Unit: million baht

	31 Dec 16	31 Dec 15
Accrued vouchers	0.06	0.08
Accrued expenses	206.48	197.27
Withholding tax payable	7.48	9.42
Creditors - the Revenue	0.90	819.84
Other current liabilities	48.41	51.27
Total	263.33	1,077.88

20. Deferred Income

Unit: million baht

	31 Dec 16	31 Dec 15
Revenue from license fee to use spectrum for the provision of digital TV service	4,643.85	5,623.79
Deferred income from administrative fines	188.49	106.66
Deferred income from donation	11.08	22.23
Balance at the end of period	4,843.42	5,752.68

The movement of deferred income in the period in 2016 and 2015 is as follows:

Unit: million baht

	31 Dec 16	31 Dec 15
Bring forward at the beginning of period	5,752.68	10,610.07
Increase deferred income during the period	-	-
Less recognized as revenue during the period	(909.26)	(4,857.39)
Balance at the end of the period	4,843.42	5,752.68

The deferred income as of 31 December 2016 and 2015 at the amount of 4,843.42 and 5,752.68 million baht respectively is mostly the deferred income of the spectrum auction for the provision of digital television service according to the NBTC Notification on Criteria, Procedures and Condition for the Spectrum Auction for the Provision of Digital Television Service in Category of National Commercial Service B.E. 2556 (2013), Article 10.

The fee payment of license to use the spectrum at the amount of 50,862.00 million baht consisting of the minimum auction price at the amount of 15,190.00 million baht and the money in excess of the minimum price at the amount of 35,672.00 million baht in which the licensees must remit to the Research and Development Fund. The payment can be paid in 6 installments, and for the 1st installment the licensee shall pay 50 percent of the minimum price and pay 10 percent of the money in excess of the minimum price for 11,162.20 million baht by remitting to the Research and Development Fund according to Section 53 (2) of the Act on the Organization B.E. 2553 (2010) on 11 February 2014 to be used for supporting the public for the universal access in digital television services.

The deferred income of the spectrum auction for the provision of digital television service as of 31 December 2016 and 2015 is detailed as follows:

20. Deferred Income (continued)

Unit: million baht

	31 Dec 16	31 Dec 15
Bring forward	5,623.79	10,469.58
Increase revenue received during the period	-	-
Revenue from spectrum auction, the 1st installment		
Total	5,623.79	10,469.58
Less recognized transfer as revenue for current installment	(979.94)	(4,845.79)
Balance	4,643.85	5,623.79

21. Other Non-Current Liabilities

Unit: million baht

	31 Dec 16	31 Dec 15
Contract guarantee deposits	95.22	77.38
Performance guarantee	164.20	169.58
Security deposit	0.44	0.44
Trust money for the monument construction	0.37	0.36
Other trust money	0.98	0.83
Total	261.21	248.59

The most of contract guarantee deposits as of 31 December 2016 and 2015 at the amount of 164.20 and 169.58 million baht is the guarantee deposits of the Research and Development Fund at the amount of 144.36 and 149.82 million baht respectively in which the Office of the NBTC had charged the operators participating in the project for supporting the public in the transition to digital terrestrial television switch-over for the guarantee of quality of goods and protection of consumers for using the set-top-box for not less than 2 years. The Research and Development Fund will collect the guarantee deposits at 5 percent of the amount of coupon value distributed to the participating operators.

22. Revenue from Telecommunications Business

Unit: million baht

	2016	2015
Revenue from spectrum auction in the frequency band of 900 MHz	151,952.00	-
Revenue from the payment for recovering auction damages	798.52	-
Revenue from spectrum auction in the frequency band of 1800 MHz	-	80,778.00
Revenue from pretty numbers auction	57.97	-
Revenue from the remuneration for spectrum usage for radiocommunications'	140.10	117.64
Revenue from license fee under the Radiocommunications Act	195.99	125.85
Revenue from business license fees	5,195.83	5,163.32
Revenue from numbering fee	3,890.19	4,219.09
Revenue from other fees	18.33	10.13
Total	162,248.93	90,414.03

The revenue from spectrum auction in the frequency band of 900 MHz for the year ended as of 31 December 2016 at the amount of 151,952.00 million baht was the payment of license fees to use spectrum for telecommunications service in the frequency band of 900 MHz according to the spectrum auction to use spectrum for telecommunications service under the NBTC Notification on Criteria and Procedure for the Licensing of Spectrum for Mobile Phone Service in the Frequency Band of 900 MHz and the Order of the Head of National Council for Peace and Order No.16/2016 on Spectrum Auction for Telecommunications Service.

23. Revenue from the Broadcasting and Television Services

Unit: million baht

	2016	2015
Revenue from spectrum auction for television service provision	979.95	4,845.79
Revenue from broadcasting service (trial operation)	68.29	40.73
Revenue from television business license fee	397.23	600.39
Revenue from license fees under Section 70	30.85	26.38
Revenue from other fees	39.63	40.00
Total	1,515.95	5,553.29

23. Revenue from the Broadcasting and Television Services (continued)

The revenue from spectrum auction for television service provision of the Office of the NBTC in 2016 and 2015 at the amount of 979.95 and 4,845.79 million baht respectively had been recognized from the spectrum auction for the provision of digital television service in the category of commercial service, national level, in the 1st installment of the Research and Development Fund (see Notes No.20) plus interest revenue, and the revenue from the spectrum auction for the provision of digital television service, category of commercial service, national level, in the 2nd installment for 24 licenses for the amount of 40,392.42 million baht. During 14 - 25 May 2015, the Office of the NBTC had received the payment of revenue from the spectrum auction for 22 licenses for the amount of 7,854.60 million baht, and the Office of the NBTC has delivered all revenue received to the Treasury on 29 May 2015 according to the Announcement of the NCPO No.80/2014 regarding the Amendment of the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services. However, for the revenue of the spectrum auction which have not been received of payment for 2 licenses at the amount of 269.60 million baht plus VAT of 18.87 million baht, totally 288.47 million baht, and the licensees have submitted a letter of guarantee, issued by a financial institution operating commercial banking business under the Financial Institutions Business Act B.E. 2551 (2008) to guarantee payment of the remaining of spectrum auction fee in which the Office of the NBTC had already received the payment from the guarantor on 4 May 2016.

24. Revenue from the Research and Development Fund

In the years 2016 and 2015, the Office of the NBTC had received the revenues from the contribution to the Fund - licensees (for the payment in USO projects) for 14,190.42 and 9,391.36 million baht respectively. Those revenues are collected for being used in the provision of basic telecommunications and social services under Section 50 of the Act on the Organization B.E. 2553 (2010) which stipulated that the NBTC shall set forth a plan for universal basic telecommunications and social services. After the Office of the NBTC has completed the formulation of the plan, and announced to the public on 29 May 2012 according to the NBTC Notification on the Plan for Universal Basic Telecommunications and Social Services (2012 – 2016) as well as issued the criteria and procedures for the revenue collection for being used in the provision of basic telecommunications and social services on the same date requiring that all telecommunications licensees shall have their duties to allocate revenue from the provision of telecommunications services to the Fund for the implementation of the plan.

25. Other revenues

Unit: million baht

	2016	2015
Revenue from 1 Por Nor radio broadcasting station	62.48	59.75
Interest revenue	676.64	917.90
Other revenue	21.77	144.67
Total	760.89	1,122.32

26. Revenue to be delivered to the Treasury – spectrum auction

Unit: million baht

	2016	2015
Spectrum auction in the frequency band of 900 MHz	151,872.41	-
Spectrum auction in the frequency band of 1800 MHz	0.92	80,687.37
Spectrum auction for digital TV service	1,223.42	-
Spectrum auction – damages recover	798.52	-
Pretty numbers auction	57.05	-
Total	153,952.32	80,687.37

27. Expense for spectrum auction

Unit: million baht

	2016	2015
Expenses for the preparation of spectrum auction in frequency band of 900 MHz	23.76	66.40
Expenses for the preparation of spectrum auction in frequency band of 1800 MHz	-	59.39
Expenses for the preparation of pretty numbers auction	0.92	-
Total	24.68	125.79

28. Human Resources Expenses

Unit: million baht

	2016	2015
Employees' salaries	760.05	766.60
Extra remuneration for the employees	126.55	102.52
Remuneration for the NBTC	31.86	33.08
Remuneration according to contract	53.40	12.22
Monthly remuneration	74.04	33.18
Fringe benefits	145.23	116.96
Provident Fund	65.36	60.02
Retirement pensions	85.82	97.98
Total	1,342.31	1,222.56



29. Operating Expenses

Unit: million baht

	2016	2015
Overtime expense	3.28	7.51
Meeting compensation	38.40	39.78
Other remuneration	1.16	0.54
Expenses for domestic travel	32.88	46.32
Repairs cost	33.17	21.82
Rental cost	119.18	121.55
Maintenance cost	173.57	99.69
Payment for contracted services	290.21	325.68
Expenses paid for entertaining guests	4.18	4.85
Expense for organizing ceremonious events	4.74	8.35
Taxes and fees	17.10	9.94
Expenses paid for attending trainings and seminars	154.47	106.80
Expenses for training registration	23.11	19.22
Expense for public relations activities	229.64	270.35
Expenses for organizing meetings	69.32	81.54
Expenses for radiocommunication equipment calibration	2.40	2.31
Expenses for hiring consultants	252.80	310.51
Donation and charity	47.96	189.11
Other expenses	6.78	3.93
Substandard supplies	79.29	114.14
Doubtful accounts	0.40	404.52
Expenses for traveling abroad	55.36	56.41
Loss (Profit) from dispose of durable articles	-	(0.22)
Petty expenses	0.04	0.04
Total	1,639.44	2,244.69

30. Public Utilities Expenses

Unit: million baht

	2016	2015
Electricity	26.20	28.95
Water	1.00	1.24
Office telephone service	4.06	4.59
Mobile phone service	14.10	13.80
DSTV service	0.32	0.32
Internet service	25.93	31.41
Postal service	4.83	69.53
Total	76.44	149.84

31. Depreciation and Amortization

Unit: million baht

	2016	2015
Depreciation-Building and its improvement	40.47	39.69
Depreciation-Electrical and radio equipment	127.60	83.62
Depreciation-Computer equipment	108.92	102.48
Depreciation–Vehicles and transportation	17.52	20.72
Depreciation-Office supplies and others	32.42	28.33
Depreciation-Financial lease contract	63.88	63.81
Total Depreciation	390.81	338.65
Amortization-Computer software	203.70	169.57
Total Amortization	203.70	169.57
Total Depreciation and Amortization	594.51	508.22

32. Financial support for education, research and development in broadcasting, television and telecommunications services

Unit: million baht

	2016	2015
Financial support for education, research and development	273.50	123.53
Expense for the provision of universal basic telecommunications services	-	3.60
Expense for supporting the organization of ITU events	79.32	-
Expense for supporting education scholarship	13.52	14.65
Total	366.34	141.78

33. Expenses for promoting and supporting the Fund's objectives

Unit: million baht

	2016	2015
Expense for the provision of universal service	433.71	4,906.72
Expense for research and development	44.06	22.08
Expense for human resource development	4.42	4.18
Expense for consumer protection	4.98	16.00
Expense for the Safe and Creative Media Development Fund	120.23	-
Total	607.40	4,948.98

Most expenses for the provision of universal service obligation in 2015 at the amount of 4,906.72 million baht was the expense for the project to support people in the transition to digital terrestrial television viewing in which the Research and Development Fund had paid to the operators participating in the project who had reimbursed the coupons receiving from the people on their redemption or reduction of the 690 baht coupon for purchasing Set-Top-Box for viewing digital terrestrial television with the Research and Development Fund according to the conditions set in the MoU between the Office of the NBTC and the participating operators.

34. Other Appropriate Obligations Expenses

Unit: million baht

	2016	2015
	The Office	The Office
	Section 65(1-2)	Section 65(1-2)
Reserved fund for overlapped disbursement in 2014-period extension	-	518.22
Reserved fund for overlapped disbursement in 2015-period extension	258.19	1,168.07
Reserved fund for overlapped disbursement in 2016	1,759.24	-
Creditors and notes payables (excluded the reserved fund in 2015 and 2014)	322.53	477.56
Other current liabilities (excluded from the reserved fund in 2015 and 2014)	245.09	1,131.53
Trust money, contract guarantee deposits, security deposits of loss surplus of trusted money payables, and others	1,056.54	150.32
Total	3,641.59	3,543.68

35. Revenue of State-enterprises under Section 84, Paragraph Three of the Act on the Organization B.E. 2553 (2010)

The Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), Section 84, Paragraph Three, prescribed that when three years have lapsed after the day on which this Act has come into force, the state enterprises' revenues, which are derived from the undertakings under the authorization, concession or contract according to paragraph two that the state enterprises operated under the law on private participation in state undertaking whether the undertaking is in whole or in part, shall be subtracted by the following expenses and remitted to the NBTC upon which it shall transfer the said money to the state treasury.

1. Business license fees calculated from income base which is generated from the authorization, concession or contract

2. Expenses for supporting the provisions of universal basic telecommunications and social services in accordance with the government policies and Section 50 calculated from income base which is generated from the authorization, concession or contract

3. Expenses incurred from the operation associated with the authorization, concession or contract as prescribed by the Ministry of Finance

35. Revenue of State-enterprises under Section 84, Paragraph Three of the Act on the Organization B.E. 2553 (2010) (Continued)

Both State-enterprises must have remitted the revenue since 20 December 2013, and it is currently being proposed to Ministry of Finance for reviewing the criteria on expenses deduction and practical guidelines for further remitting such amount of money as state revenue.

36. Revenue from Service Provision on behalf of the State

The NBTC Notification on Measure for Protecting Users in Temporary Period in case of the Termination of Concession or Contract for Mobile Phone Service Provision B.E. 2556 (2013), Article 7 prescribing that during the protection period, the service providers shall have responsibility to receive payment of revenue from the provision of services on behalf of the state by having separated accounts of payment receipt specifically, and reporting the amount of revenue and its incurred interests which have already been deducted the cost of network usage and telecommunications numbering fees, the expense cost of management, and other necessary costs to service provision, the rest amount of revenue shall be audited by the Office of the NBTC before further delivering as state revenue. The revenue of spectrum in the frequency band of 1800 MHz which the concession ended on 15 September 2013 was divided into 3 periods. The first period was during 16 September 2013 – 17 July 2014 at the amount of 1,697 million baht which the Telecommunication Commission (TC) had its resolution to approve that the revenue from the provision of service in the period of protecting users in the frequency band of 1800 MHz shall be delivered as state revenue. The second period was during 18 July 2014 – 17 July 2015, the same period of having the Announcement of the NCPO, which the TC had assigned a working group to audit the money to be delivered as state revenue from the provision of service in the period of protecting users in the frequency band of 1800 MHz, and the third period started from 18 July 2015 onwards until the new service provider has been chosen. The TC Meeting No.30/2015 on 16 November 2015 had considered the termination date of mobile phone service provision in the period of protecting users and agreed that while the Office of the NBTC has not yet received the decision judgment from the Head of NCPO plus the mobile phone service provision in the frequency band of 1800 MHz will be ended on 18 November 2015, therefore, to avoid the contrary to the intention of the order of the Head of the NCPO, the TC had its resolution to postpone the termination date of the users protection from 18 November 2015 until the NCPO make its decision judgment or the TC had granted licenses to the winning bidders to use spectrum in the frequency band of 1800 MHz since 25 November 2015 and 3 December 2015 and assigned the Office of the NBTC to inform the relevant parties

36. Revenue from Service Provision on behalf of the State (Continued)

of the result including operating guidelines in case of the provision of mobile phone service in the frequency band of 900 MHz. The Office of the NBTC has issued the licenses to use spectrum for telecommunications service in the frequency band of 1800 MHz which have been effective since 26 November 2015. For the spectrum in the frequency band of 900 MHz which the concession ended on 30 September 2015, it has been in process of the auction fee payment by the winning bidders within 90 days as from the date of receiving the written document informing of being the winning bidder according to the NBTC Notification regarding Criteria and Procedure for the Licensing of Spectrum for Telecommunications Service in the Frequency Band of 895–915 MHz/940–960 MHz and the Order of the Head of National Council for Peace and Order No.16/2016 on spectrum auction for telecommunications service assigning the NBTC to arrange the spectrum auction in the frequency band of 900 MHz, frequency range of 895–905 MHz pair with 940-950 MHz and protect users for temporary period to ensure that the users have received benefits and used the services continuously until 30 June 2016 or until the NBTC has already granted a license to use spectrum to the winning bidder as the case may be. Later on, the NBTC has already granted licenses to the winning bidders since 30 June 2016.

37. Contingent Liability

According to the provision of the Act on the Organization B.E. 2553 (2010) Section 27(12) and Section 50 stipulating that the NBTC shall set forth a plan for universal basic telecommunications and social services, on 16 May 2012 the NBTC had its Resolution in the NBTC Meeting No.7/2012 approved the Plan for Universal Basic Telecommunications and Social Services (2012-2016), and issued the NBTC Notification on the Plan for Universal Basic Telecommunications and Social Services (2012-2016) dated 29 May 2012 containing timeframe for the implementation in the period of 2012-2016 with the operating budget of 20,468.30 million baht. Details are shown as follows:

Unit: million baht

Operating years	Details of works	Amount
2012 - 2013	- Organizing USO auction in 2 pilot provinces	500.00
-	- Conducting nationwide survey	100.00
2013 - 2016	- Organizing auction for USO operation	18,395.50
2012 - 2016	- Provision of universal basic services telecommunications and other social services	1,472.80
	Total	**20,468.30**

37. Contingent Liability (Continued)

Moreover, on the same day, the NBTC has issued the criteria and procedures for collecting revenue from the licensees as stipulated by the Telecommunications Business Act that all licensees have the duties to allocate the revenue from the provision of telecommunications service to the Fund.

The Fund Management Committee had its resolution in the Meeting No.5/2013 on 18 April 2013 having assigned the Sub-committee for scrutinizing the projects to consider and propose recommendation on the Fund allocation regarding the (draft) USO Action Plan (2012-2016) before presenting to the Fund Management Committee Meeting for its approval. To support the consideration of the Sub-committee, the Universal Services Bureau had clarified the draft USO Action Plan in details to Sub-committee in the Meeting No.9/2013 on 27 May 2013 and proposed the improvement of the (draft) USO Action Plan in 2013 as follows:

1. Improving budget framework of each project to be in line with the remaining period of the year 2013 by decreasing from 2,461.26 million baht to 2,029.60 million baht

2. Categorizing the projects into 3 groups consisting of

Details of project Unit: million baht

		Amount
Group 1	Projects that are urgently needed, totally 2 projects and 1 workplan	372.39
Group 2	Projects that continued to the original plan, totally 2 projects	116.37
Group 3	New projects, totally 7 projects	1,440.84
Total		1,929.60
Reserved budget		100.00
Grand Total		**2,029.60**

37. Contingent Liability (Continued)

The Sub-committee had its resolution in the Meeting No.9/2013 to assign the Universal Services Bureau to improve 5 projects that are urgently needed to be in accordance with the period of the year 2013 and propose to the NTC for approval before further proceeding. For the new projects which were unable to implement in the year 2013, the Universal Services Bureau was assigned to revise the plan in details by coordinating with the Research and Development Bureau and proposing for budget allocation in 2014.

On 4 June 2013, the NTC had acknowledged, in its Meeting No.21/2013, the draft USO Action Plan for the period of 2012-2013 that had been revised and proposed by the Universal Service Bureau to be in line with the annual budget of the Fund and recommendations of the Sub-committee for scrutinizing the projects. The NTC Meeting also assigned the Office of the NBTC to include the project to study and analyze the approaches for the provision of emergency telephone number services in the Action Plan and improve the budget including the preparation on the project implementation that has been adjusted to be implemented in fiscal year 2014 to ensure the continuity in the implementation of the project.

On 11 June 2013, the Fund Management Committee had its Resolution in the Meeting No. 8/2013 approved the project and the Fund allocation to support the projects under the USO Action Plan on telecommunications for the year 2013 consisting of 5 projects and 1 workplan in the total amount of 1,028.91 million baht.

The NBTC has its Resolution in the NBTC Meeting No. 6/2013 on 19 June 2013 approved the consideration of the budget under the expenditure framework in 2013 for only 1, 028.91 million baht by allocating money at the amount of 495.76 million baht from the Fund in the fiscal year 2013 and the rest of 533.15 million baht will be committed to the budget in 2014 -2016.

On 16 June 2014, the Office of the NBTC had submitted the project for the provision of universal basic telecommunications services and social services which worth 20,468.30 million baht under the 4-year operation framework to the National Council for Peace and Order for approval and the National Council for Peace and Order had replied that the NBTC should postpone the implementation of the project for temporarily until the project details has been verified and the clear budget expenditure have been prepared as rules and legal provision for the utmost benefit of the state.

37. Contingent Liability (Continued)

On 9 July 2014, the National Council for Peace and Order (NCPO) had issued the NCPO Announcement No.80/2014 regarding the Amendments to the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services B.E. 2553 (2010), Article 4 which is to abolish the Fund Management Committee in Section 54 of the Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services, and replaced by the following messages:

"Section 54 There shall be a Fund Management Committee consisting of

(1) Chairman of the NBTC as the chairperson

(2) Permanent Secretary of the Office of the Prime Minister, Permanent Secretary of Ministry of Defense, Director of Budget Bureau, Secretary-General of the National Economic and Social Development Board, Director-General of Comptroller's Department, and Director of the National Electronic and Computer Center, as members by position

(3) Two experts selected by the members under (1) and (2)

The Secretary-General of the NBTC shall be a member and secretary and appoint competent official of the Office of the NBTC as assistant secretary.

Members under paragraph one (3) shall not be of any prohibitions under Section 7B (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) and (11). The members shall hold office for a term of three years and may be reappointed but may not serve for more than two consecutive terms.

The provision of Section 23 shall apply mutatis mutandis to the meeting of the Fund Management Committee."

38. Major Events, Disputes and Lawsuits

1. The Office of the NBTC was the plaintiff for the offence of breach of contract for the radio broadcasting station rental in the frequency of 98.5 MHz and demanded a payment for damages for 16.34 Million baht according to the Undecided Case No. 4800/2010 and the Decided Case No.4067/2011. It is reliable that the Office of the NBTC will receive some payment of debts.

2. The Office of the NBTC was the plaintiff for the offence of breach of contract for 1 Por Nor radio broadcasting station rental, and demanded a payment for damages with capital of 5.00 million baht according to the Undecided Case No. 6024/2009 and the Decided Case No. 1935/2011. It is reliable that the Office of the NBTC will not receive the payment of debts as the debtor has no assets to be seized for an execution of debts payment.

38. Major Events, Disputes and Lawsuits (Continued)

3. The Office of the NBTC had requested for the settlements of the bankruptcy case for 9.20 million baht according to the Undecided. Cases No. 811/2002 and the Decided Case No.755/2002 in which the Office of the NBTC will not be distributed of the assets.

4. The Office of the NBTC was the defendant for the offence in relations to the disputes case on administrative contract according to the Undecided Cases No. 1370/2015 with capital of 9.32 million baht. It is reliable that the Central Administrative Court will have the Office of the NBTC judged a prevailing party.

5. The Office of the NBTC was the defendant for the offence in relations to placing an order for setting the daily administrative fine at 80,000 baht due to the plaintiff failed to collect data and details of prepaid mobile phone users which is considered a violation of the NTC Notification on Criteria for Telecommunications Numbers Allocation and Management B.E. 2551 (2008), Articles 38 and 96 according to the Undecided Cases No. 1857/2011. The plaintiff had requested the Central Administrative Court to withdraw the accusation and the Court has already ordered the dispose of the case and No. 818/2013 which is in the process of appealing the defense to the Supreme Administrative Court.

6. The Office of the NBTC was the defendant for the offence in relations to placing an order for setting the daily administrative fine at 100,000 baht due to the plaintiff has defined the usage duration for prepaid mobile phone services which is considered a violation of the NTC Notification on Standard of Contract for the Provision of Telecommunications Service B.E. 2549 (2006), Article 11, according to the Undecided Case No.75/2013 with capital of 24.40 million baht which the process of facts finding has ended, and the Undecided Case No.56/2013 with capital 24.00 million baht, which is in the process of appealing the defense to the Supreme Administrative Court.

7. The Office of the NBTC was the defendant for the offence in relations to the issuance of the order of Secretary-General of the NBTC setting the daily administrative fine at 140,000 baht and according to the TC's Resolution in the Meeting No.13/2015 on 30 June 2015 and the pronouncement on the Undecided Case for 58.94 million baht which the plaintiff has already filed additional pleadings with the Central Administrative Court, and according to the Undecided Case No. 1933/2015 with capital of 62.72 million baht which is under the preparation of additional testimony.

38. Major Events, Disputes and Lawsuits (Continued)

8. The Office of the NBTC was the defendant for the offence in relations to exercising power under the law on the rights to use spectrum in the frequency band of 1800 MHz and requesting for the withdrawal of the NBTC Notification on Measure for Protecting Users in Temporary Period in Case of the Termination of Concession or Contract for Mobile Phone Service Provision B.E. 2556 (2013), as well as demanding the charge for lacking of revenue benefits for 23,199.29 million baht, and loss of advantage from having been transferred the users and mobile numbers 252,459.07 million baht, according to Case No. 2128/2013, which is in the process of submitting additional testimony.

9. The Office of the NBTC was the defendant for the offence in relations to unlawful conduct by a state agency or state officials in case of issuance of the NBTC Notification on Measure for Protecting Users in Temporary Period in Case of the Termination of Concession or Contract for Mobile Phone Service Provision B.E. 2556 (2013), and the NBTC Notification on Users Protection in Temporary Period in Case of the Termination of Concession or Contract for Mobile Phone Service Provision according to the Order of the NCPO No.94/2014 regarding the Suspension of Operation under the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services. The plaintiff has demanded the defendants to share liabilities or cover for a payment of 24,291.86 million baht with interest at the rate of 7.5 percent per year to the plaintiff according to the Undecided Case No. 1651/2015 which the defendant has already submitted additional testimony to the Central Administrative Court.

10. The Office of the NBTC was the defendant for the offence in relations to the request for damages payment caused by the operation of the plaintiff under the NBTC Notification on Measure for Protecting Users in Temporary Period in Case of the Termination of Concession or Contract for Mobile Phone Service Provision B.E. 2556 (2013), in which the cost of expenditure is higher than income and demanding for the reimbursement of telecommunications numbering fees that the plaintiff has already paid according to the Undecided Case No. 2013/2015 with capital of 16,265.06 million baht, which the defendant has already submitted additional testimony.

11. The Office of the NBTC was the defendant for the offence in relations to the issuance of the order to the plaintiff to deliver the revenue from the provision of service according to the Measure for Protecting Users in Temporary Period according to the Undecided Case No. 1997/2015 with capital of 627.64 million baht, which the defendant has already submitted additional testimony to the Central Administrative Court.

38. Major Events, Disputes and Lawsuits (Continued)

12. The Office of the NBTC was the defendant for the offence in relations to the issuance of the order for setting the daily administrative fine at 210,000 baht on the plaintiff until the plaintiff has already submitted the completed report of accounting separation in telecommunications services in 2012 according to the NBTC Notification on Criteria and Methods for the Preparation of the Report of Accounting Separation in Telecommunications Services according to the Undecided Case No.59/2016 with capital of 22.89 million baht, which has already submitted additional testimony to the Central Administrative Court.

13. The Office of the NBTC was the defendant for the offence in relations to the disputes on revenue and expenditure in the temporary period for users Protection according to the NBTC Notification on Measure for Protecting Users in Temporary Period in Case of the Termination of Concession or Contract for Mobile Phone Service Provision B.E. 2556 (2013) and the Order of the National Council for Peace and Order No.94/2014 regarding the Suspension of Operation under the Act on the Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services according to the Undecided Case No. 741/2016 with capital of 5,778.00 million baht, which the defendant has already submitted the testimony to the Central Administrative Court.

14. The Office of NBTC was the defendant for the offence in relations to unlawful conduct by a state agency or state officials in case that the TC Meeting No.32/2015 on 2 December 2015 had its Resolution to assign the universal service obligation on the plaintiff based on the revenue from telecommunications business operation (after cost deduction) of telecommunications licensees at the rate of 4 percent per year according to the Undecided Case No. 1545/2016 with capital of 86.96 million baht, which is in the process of preparing testimony.

15. The Office of the NBTC was the plaintiff for the offence of the delivery of the revenue from the provision of service in the 1st period of the remedy according to the Undecided Case No. 1228/2016 with capital of 1,150.66 million baht, which was filed against the Administrative Court by the public prosecutor, and according to the Undecided Case No.1441/2016 with capital of 633.31 million baht, which filed a lawsuit against the Administrative Court.

16. The Office of the NBTC was the defendant for the offence in relations to placing an order for setting compulsory administrative measures due to the plaintiff was unable to have the Mobile Number Portability service registered within the specified period according to the Undecided Case No. 792/2011 with capital of 13.50 million baht, in which the defendant has already appealed the defense to the Supreme Administrative Court.

38. Major Events, Disputes and Lawsuits (Continued)

17. The Office of the NBTC was the defendant for the offence in relations to the disputes of unlawful conduct by a state agency or state officials (the order to pay unpaid telecommunications service fees with interest and surcharge) according to the Undecided Case No. 439/2008 with capital of 747.42 million baht, in which the defendant has already appealed the defense.

18. The Office of the NBTC was the defendant for the offence in relations to the disputes of unlawful conduct by a state agency or state officials (the order to pay the special telecommunications number fees unlawfully) according to the Undecided Case No. 397/2011 with capital of 656.51 million baht, in which the defendant has already appealed the defense.

19. The Office of the NBTC was the defendant for the offence in relations to unlawful conduct by a state agency or state officials (requesting for the revoke of the NTC Notification on Criteria for Mobile Number Portability Service, the Order of the Secretary-General of the NTC prescribing that the plaintiff must provide the mobile number portability service, and the Order for setting the administrative fine in case that the plaintiff failed to carry out the provision of mobile number portability service) according to the Undecided Case No. 777/2011 with capital of 13.50 million baht which the defendant has already appealed the defense, and according to the Undecided Case No.778/2011 with capital of 13.50 million baht which the defendant has already appealed the defense.

20. The Office of the NBTC was the defendant for the offence in relations to the disputes of unlawful conduct by a state agency or state officials and the violation of the administrative authorities or government officials resulting from the execution of legal power (requesting for the revoke of the Resolution of the NBTC Meeting No.8/2010 on 2 April 2010 revoking the order for setting daily compulsory administrative measures at 166,666.67 baht) according to the Undecided Case No.894/2014 with capital of 13.50 million baht which the defendant has already appealed the defense, and according to the Undecided Case No.793/2011 with capital of 13.50 million baht which the defendant has already appealed the defense.

39. Situations after the reporting timeframe

The Ad Hoc Committee Group to Consider the Draft Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services (No. ...) B.E. ...., National Legislative Assembly, has been in the process of consideration of the draft Act on Organization to Assign Radio Frequency and to Regulate the Broadcasting and Telecommunications Services (No. ...) B.E. ...., in which the National Legislative Assembly in its Resolution adopted in principle the first reading on 30 June 2016 with 162 votes and 4 abstention, as proposed by the Cabinet.

Internal Audit Report

of the Office of the National Broadcasting
and Telecommunications Commission
(the Office of the NBTC)
in the Fiscal Year 2016

According to the Order of the National Broadcasting and Telecommunications Commission (NBTC) No. 41/2015, dated 6 May 2015, appointing the Internal Audit Committee for 5 persons as follows:

(1) General Kamol Saenissara	Chairman
(2) Mr. Wallop Nitatkanchananon	Committee
(3) Mr. Somyos Sriwanich	Committee
(4) Mr. Atthawut Vikitsreth	Committee
(5) Mr. Weerapong Kriengsinyos	Committee

Mr. Weerapong Kriengsinyos has resigned from the post on 27 May 2015 and it made the committees remained 4 members at present.

The Internal Audit Committee has operated under its powers and duties under Section 3 of the NBTC Regulation regarding the Internal Audit B.E. 2554 (2011) with its policy focusing on the operation based on the good governance principle, good internal auditing system, and independent operation under its powers and duties without intervention from the NBTC, the Office of NBTC and other departments.

In the operation under its powers and duties and responsibilities of the Internal Audit Committee in 2016, the Internal Audit Committee had focused on the preventive audit to encourage a systematic working in accordance with the good governance including to raise awareness and importance of the follow-up of the issues found at risk and having impacts on the performance of the NBTC and the Office of the NBTC regularly. The Internal Audit had organized 13 meetings in which the executives, officials of the relevant bureaus, and the auditors were invited to attend the meetings as appropriate.

The main operation can be summarized as follows:

1. Evaluating the adequacy and effectiveness of the Internal Control System of the Office of the NBTC including the efficiency and effectiveness of the functional operation of each bureau of the Office of the NBTC, as well as proposing suggestions for the improvement of risk management, control and regulation constantly.

2. Having reviewed the operating system in all areas to ensure of the compliance to the laws, regulations, rules, orders of the NBTC, and the operation standard that can help the operation to achieve targets, objectives and be in line with the NBTC's policies.

3. Having reviewed of the accuracy and trustworthy of the financial statement report of the Office of the NBTC by reviewing the accounting records and financial statement preparation as well as discussing the operation in terms of accounting, finance and procurement, with the officers of the Office of the Auditor General of Thailand (auditor) and relevant officials.

4. Reviewing and evaluating the operation of the Office of the NBTC in areas of accounting, finance and procurement, as well as proposing recommendations for the improvement on weaknesses and the development for the most efficient.

5. Analyzing and evaluating of the efficiency, cost savings, and worthiness of resources usage by verifying the implementation and evaluation of the projects expenditure of the Office of the NBTC.

6. Reviewing the strategy plan of the Internal Audit Bureau, annual audit plan and long-term monitoring on the operation under the plan for the review of the inspection results and the Internal Audit had provided its recommendations and followed-up the operation for improving the significant issues pointing out in the report in order to create good governance and sufficient internal controls.

The Internal Audit Committee found that the operation of the Office of the NBTC in the year 2016 had been in line with the good governance, transparency, risk management and internal controls without any defects or significant irregularities. In addition, the preparation of financial reports has been complied with the generally accepted accounting standards with the appropriateness, reliability and sufficiency of the disclosure of adequate information on financial reports.

The Committee has focused on the oversight and proposed observations and recommendations to the Management and the operating teams in a frank and fair manner, and prepared the report of auditing and recommendations to be submitted to the NBTC in every 180 days for the improvement of the Office of the NBTC, as well as followed-up the result of the improvement upon the recommendations for the efficient of the performance of the Office of the NBTC.

Gen.

(Kamol Saenissara)

Chairman of Internal Audit Committee


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6

Workplan and Budget Plan in 2017

Workplan and Budget Plan in 2017

1. Workplan in 2017

The NBTC has its main policies in the operation and budget in the year 2017 focusing on the protection of public benefit for the utmost use as follows:

(1) To build the organization of transparency continuously, especially on budgeting, budget expenditure, procurement, and the provision of licensing service, to ensure that every process of operation is transparent.

(2) To accelerate the delivery of revenue in the year 2016, which has already deducted the operating expenditure, to the Ministry of Finance as state revenue at the beginning of January 2017 immediately without being certified by the Office of the Auditor General of Thailand. It is expected that the revenue to be delivered as state revenue in 2016 will be more than 4,300 million baht.

(3) To decentralize all types of licensing to the Office of the NBTC Region1 - 4 to be able to operate on behalf of the Office of the NBTC in the Headquarters to facilitate the persons wishing to apply for licenses in all regions so they do not have to travel to the Headquarters of the Office of the NBTC in Bangkok. This includes the establishment of 4 more Sub-regional offices of the Office of the NBTC to complete 21 Sub-regional offices with the purposes to support the cooperation with other government agencies on monitoring content advertising on radio, television and online media as well as to receive complaints of people.

(4) To support and push forward the assistance to digital TV operators which consisted of the issues that had been considered and approved by the NBTC Meeting and the issues being in the process of presentation to the NBTC Meeting. The main issues are as follows:

- Supporting the use the money from the Fund to carry out the television channels via satellite according to the Must-carry Rule, to be completed as soon as possible.
- Exempting or reducing the annual fees from the broadcast of programs concerning the demise of His Majesty King Bhumibol Adulyadej which were considered as the informative programs that shall be claimed for exemption or reduction of annual fees.

• Extending the auction payment period in the 4th, 5th and 6th installments into several installments in order to lighten the load of digital TV operators.

• Distributing additional more than 4,000,000 digital TV coupons to the public, starting from January 2017 onwards. Moreover, the NBTC has improved the system for distributing digital TV coupons in order to facilitate the citizen and there will be a transparent and fair operating process according to the government's policy. In the distribution of additional digital TV coupons, there will be a link of database between the NBTC and the Department of Provincial Administration so that the people will be able to show their ID cards for redeeming the Set-Top-Box or receiving discount on buying digital television set.

• Accelerating the expansion of digital television networks, especially the low power stations to cover the area of broadcasting and provide the service with good quality of the signal under the same standard

• Extending the revenue collection to the Fund period by considering from the results of the business operation in 2017, and as a result, the revenue collection to the Fund period will be extended to the year 2018.

• Reducing the annual fee rates which will be put into force on the revenue generated in 2016, and this will result in the decrease of a burden on annual fees in overall for more than 50 percent.

(5) Supporting the operation under the government's policy regarding digital TV in order to be in line with the government's policy, including accelerating the issuance of the measure for prevention and anti-piracy in the broadcasting and television services.

(6) Returning the frequency of radio broadcasting station used by the Office of the NBTC (1 Por Nor) for at least 9 stations in the beginning of the year 2017

(7) Supporting and accelerating the village internet installation under the NBTC mission on universal service and social service obligation (USO) in marginal areas for 3,920 villages and in the additional areas assigned by the government for 15,000 villages. The operation will be done soonest and it is expected to start operating in December 2017 onwards, and the NBTC will notify the Comptroller General's Department in written requesting for the inclusion of the project to the project on moral agreement in order to confirm that the project will be done with transparency, cleanness and fairness.

(8) Organizing the mobile phone pretty numbers auction for 1,500 numbers quarterly in the year 2017 in which for the 1st quarter, more than 100 numbers of 6 digits recurring and 7 digits recurring will be auctioned within March 2017, and the NBTC will speed up the auction for the remaining numbers in the 2nd, 3rd, and 4th quarters. The revenue generated by the auction after expenditure deduction will be delivered as the state revenue.

(9) Building confidence of the citizen on the use of prompt pay system or mobile payment in which by the end of the 1st quarter of 2017, the NBTC will enforce the prepaid mobile phone SIM card registration on the users wishing to use a new number by having fingerprint scanned. For the SIM card registration, the registrant must show his identity card and the information will be examined with the database of the Department of Provincial Administration to confirm the accurate information. Moreover, to ensure the people who use the service in the prompt pay system or mobile payment that the money in their bank accounts will be secured. There is no need to re-register for people who have already registered their SIM cards, however, if they want to be assured of the financial transactions in such system, they can also register their SIM cards in the new system.

Currently, there are approximately 14 million accounts of the people who use mobile payment system, and the NBTC has cooperated with the Bank of Thailand, the Thai Bankers Association, and mobile phone service providers to specially take care of those 14 million accounts to ensure the people of the security of the system and the people's confident in using such systems.

(10) Setting up policy on the service provision to the disabled wishing to buy mobile phone SIM card under the project "SIM cards for the Disabled", in which the disabled who buy new mobile phone SIM cards will get a 10 percent discount of service charge. For the disabled who use old SIM cards, they can present the SIM cards to the service providers for identifying themselves and get a 10 percent discount of service charge as well. It is expected that the SIM cards for the disabled will be available for service provision within March 2017.

(11) Accelerating the operation on organizing communications lines, in cooperation with telecommunications operators, the Metropolitan Electricity Authority (MEA) and Provincial Electricity Authority (PEA) in order to improve the scenery of the city to be more beautiful as well as ensure safety of life and property of the citizen.

(12) Accelerating the operation regarding the revenue generated from the mobile phone service provision in the frequency band of 1800 MHz and 900 MHz during the remedy period in order to reach a settlement by the 1st quarter of 2017, and the NBTC will deliver the revenue generated from the service during this period as state revenue.

(13) Protecting consumers in broadcasting, television and telecommunications services which is considered as a crucial mission to be done in top priority whether consumer protection in telecommunications service such as setting telecommunication service rates, follow-up and monitoring quality of signal of the service provision, handling the consumers' complaints, or consumer protection in broadcasting and television services such as regulating the exaggerated advertisement, illegal advertisement, etc. The operation of the Office of the NBTC must be done in a transparent and fair manner for the utmost benefit of the public.

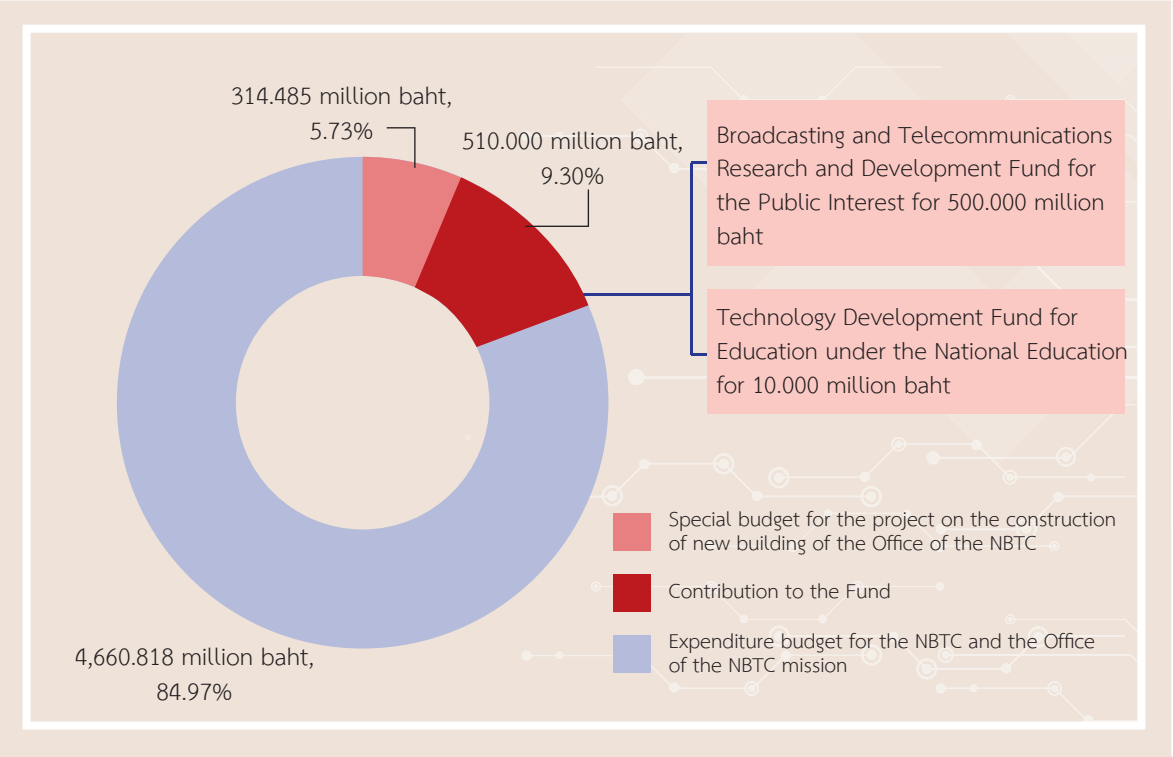
2. The expenditure budget plan in 2017

According to the above policies and the action plans, the NBTC Meeting had approved the expenditure budget plan under the Strategic Plan of the Office of the NBTC in the year 2017 as shown in Table 50 and Chart 41.

Table 50: The expenditure budget plan of the Office of the NBTC in 2017

1	Essential expense (minimum)	1,996.206	million baht
2	Expense commitment over the previous year	641.853	million baht
3	**Budget total (1 + 2)**	**2,638.059**	**million baht**
4	Expenditure budget for new plans/projects	1,972.759	million baht
5	Central budget in case of emergencies and necessities	50.000	million baht
6	**Total expenditure budget for the NBTC and the Office of the NBTC mission (3 + 4 + 5)**	**4,660.818**	**million baht**
7	Project on the construction of new building of the Office of the NBTC	314.485	million baht
8	Contribution to the Fund	510.000	million baht
	Total	**5,485.303**	**million baht**

Chart 41: The expenditure budget plan of the Office of the NBTC in 2017



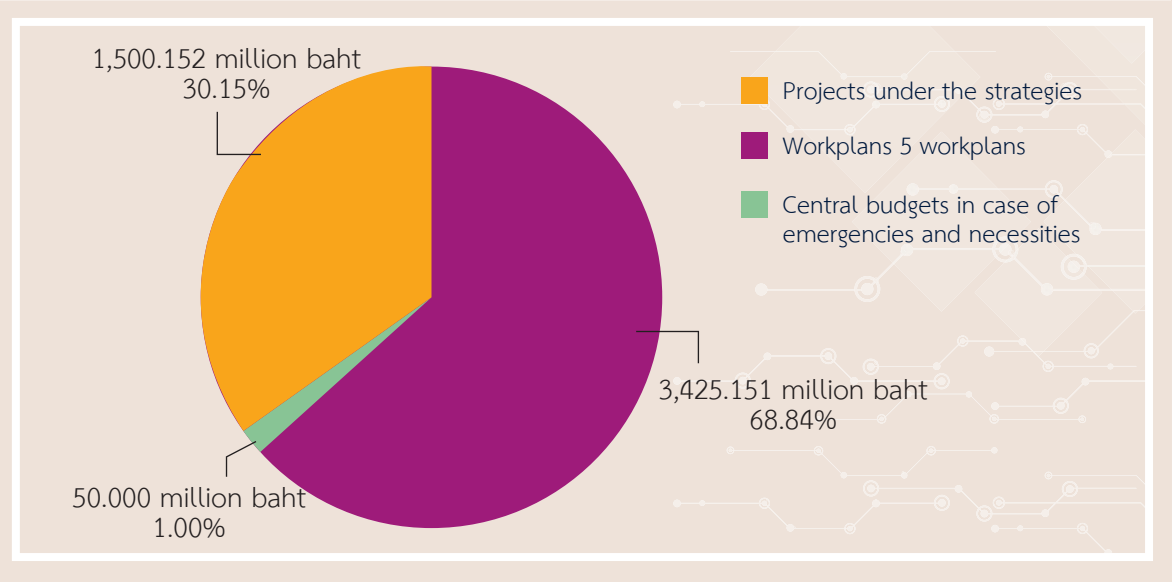
Source: Strategic and Budget Bureau, Office of the NBTC

3. The expenditure budget of the Office of the NBTC in 2017, categorized by strategy

The expenditure budget of the Office of the NBTC in 2017, categorized by strategy consisted of

3.1 The budget for the implementation according to the workplans and strategies of the Office of the NBTC in 2017 consisting of 5 workplans for 3,425.151 million baht and central budget in case of emergencies and necessities for 50.000 million baht, and 118 projects under the strategies for 1,500.152 million baht, totally 4,975.303 million baht. Details are as shown in Chart 42.

Chart 42: The budget for implementation according to the workplans and strategies of the Office of the NBTC in 2017



Source: Strategic and Budget Bureau, Office of the NBTC

• **Workplan on the organization administration** for the expense of organization administration at the amount of 358.273 million baht (in accordance with Strategy 4: Support and promotion of innovation and the establishment of network of participation).

• **Workplan on the management of strategies and corporate affairs** for the expense of the management of strategies and corporate affairs at the amount of 1,879.793 million baht, and the central budget in case of emergencies and necessities at the amount of 50.000 million baht, totally 1,929.793 million baht (in accordance with Strategy 1: Strengthening the management under the good corporate governance).

• **Workplan on spectrum management and regions** for the expense of spectrum management and regions at the amount of 599.773 million baht (in accordance with Strategy 2: Efficient spectrum management, consumer protection, promotion of equality, fairness in communications infrastructure, and the digital opportunities).

• **Workplan on broadcasting management** for the expense of broadcasting management at the amount of 251.234 million baht (in accordance with Strategy 3: Promotion of free and fair competition, communications resource management for supporting the country development towards digital communities).

• **Workplan on telecommunications management** for the expense of telecommunications management at the amount of 336.078 million baht (in accordance with Strategy 3: Promotion of free and fair competition, communications resource management for supporting the country development towards digital communities).

Projects implementation under the strategies for 1,500.152 million baht as follows:

Strategy 1: To Strengthen Administration in Line with Good Corporate Governance, the NBTC has allocated the budget of 659.772 million baht for implementing 42 projects.

Unit: baht

Projects with budget commitments over the year for 22 projects		447,625,000.00
1	Fellowship program of the Office of the NBTC (2008-2010)	700,000.00
2	Fellowship program of the Office of the NBTC (2011)	1,000,000.00
3	Fellowship program to honour His Majesty the King	5,997,000.00
4	Fellowship program of the Office of the NBTC (2013)	1,880,000.00
5	Scholarship for domestic study in Master Degree for the Office of the NBTC's personnel (2015)	1,905,000.00
6	Scholarship for study in Master Degree of the Office of the NBTC (general person) (2015)	9,036,000.00
7	Scholarship for domestic study in Master Degree or Doctorate for the Office of the NBTC's personnel (2016)	3,300,000.00
8	Scholarship for study in Master Degree of the Office of the NBTC under the MoU on academic cooperation (2016)	2,531,000.00
9	Scholarship for study in Master Degree of the Office of the NBTC (general person) (2016)	540,000.00
10	Building construction of the Office of the NBTC	314,485,000.00
11	Comprehensive work management system outsourcing for reforming the procurement of the Office of the NBTC via integrated electronic system	30,000,000.00
12	Setting up key performance indicators (KPIs) and evaluating the performance according to the KPIs of the Office of the NBTC in 2016	500,000.00
13	Setting up the framework of career path for manpower of the Office of the NBTC (Phase 2)	7,430,000.00
14	Supply for 14 vehicles for radio frequency monitoring and direction search	–

Unit: baht

Projects with budget commitments over the year for 22 projects (Continued)		
15	Supply for the central standard system for Enterprise Universal Service Bus of the Office of the NBTC	10,800,000.00
16	Enhancement of website management system	2,800,000.00
17	Information system development for supporting information technology services	8,550,000.00
18	Developing E-learning system through information network of the Office of the NBTC	16,200,000.00
19	Outsourcing for the development of e-Document system for supporting e-Form and e-Signature	6,240,000.00
20	Hiring a consultant for developing the organization to meet the standards of the provision of information services according to ISO/IEC 20000 : 2011	4,251,000.00
21	Supply for 13 sets of UPS system for the Office of the NBTC Region	18,000,000.00
22	Developing application programs to be used as communication channels for the Office of the NBTC	1,480,000.00
New projects for 20 projects		**212,146,500.00**
1	Hiring a consultant for developing the organization towards new international standards on information security ISO 9001 : 2015 of 10 Bureaus	4,060,000.00
2	Making the succession plan of the Office of the NBTC	1,200,000.00
3	Hiring the consultant on job evaluation of the Office of the NBTC	4,500,000.00
4	Recruiting personal for temporary employment	90,420,500.00
5	Scholarship for domestic study in Master Degree or Docterate for personal of the Office of the NBTC (2017)	1,400,000.00
6	Scholarship for studying in Master Degree under academic cooperation for the Office of the NBTC (general person) (2017)	300,000.00

Unit: baht

New projects for 20 projects (Continued)		
7	Scholarship for studying in Master Degree under academic cooperation for the Office of the NBTC (general person) (2017-2019)	300,000.00
8	Publishing the Communication Encyclopedia of Thailand	3,460,000.00
9	Construction of the building of the Office of the NBTC Sub-region	6,750,000.00
10	Supply of 8 vehicles for spectrum monitoring and direction search for the Office of the NBTC Sub-region	20,006,000.00
11	Investigation and analysis of network security and information technology system, the Office of the NBTC	3,200,000.00
12	Website development of the Office of the NBTC, Phase 2	6,500,000.00
13	The system to analyze usage behavior to determine the value of information investment	13,400,000.00
14	Setting up the detection and prevention system of the DDOS attack to network system	9,900,000.00
15	Setting up the system for the follow-up and management of the contract grants for research and development that having received financial support by the Research and Development Fund	3,850,000.00
16	Development of the data cleaning system	9,000,000.00
17	Development of the analytical report for business intelligence, Phase 3 of the Office of the NBTC	4,000,000.00
18	Efficiency improvement and enhancement of e-document	5,000,000.00
19	Network system improvement for efficiency enhancement	17,300,000.00
20	Research study on the use of Blockchain technology for the development of information system in communication and command in the organization of the Office of the NBTC	7,600,000.00

Strategy 2: To Manage Spectrum Allocation Efficiently, Consumer Protection, Create Equality in Communication Infrastructure Access and Digital Opportunity, the NBTC has allocated the budget of 467.911 million baht for the implementation of 32 projects.

Unit : baht

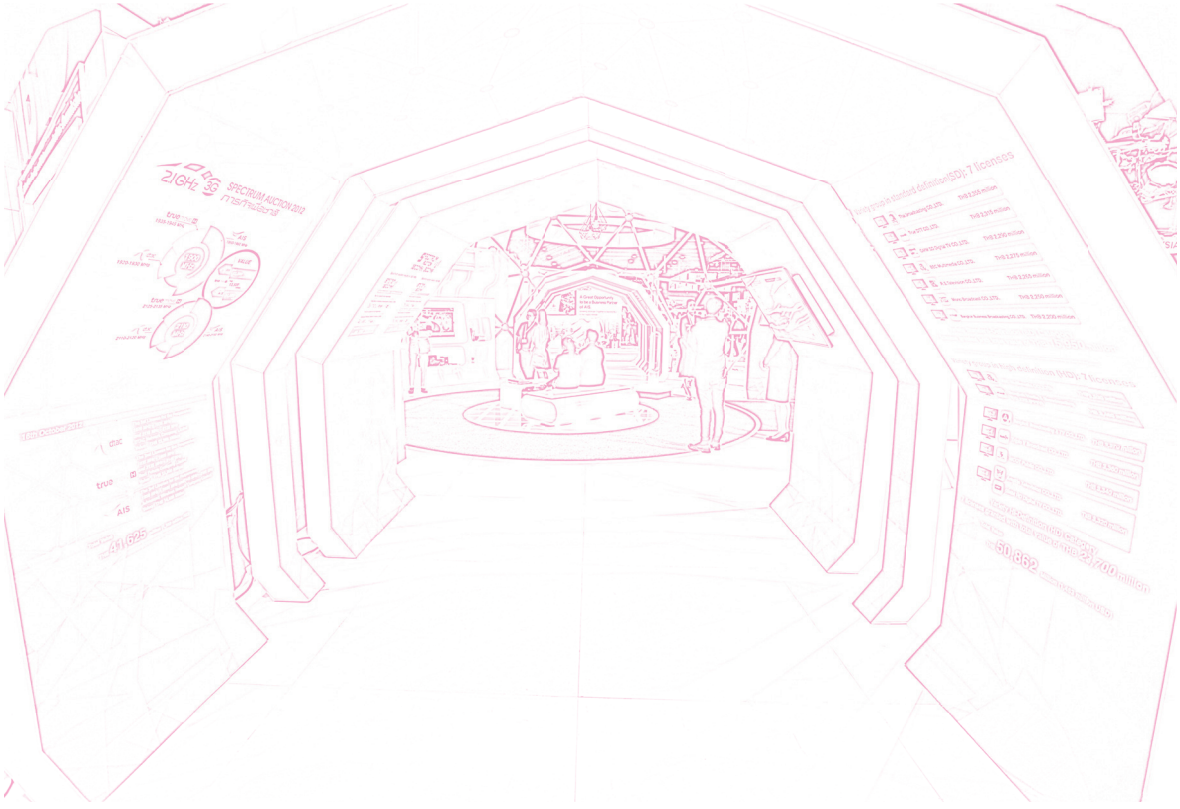
The budget commitments over the year for 12 projects		197,450,000.00
1	Supply for 6 sets of fixed-radio frequency usage monitoring stations	_
2	Data storage for the automatic frequency monitoring site	8,000,000.00
3	Supply for 4 vehicles for spectrum monitoring and direction search for the Office of the NBTC Sub-region	57,800,000.00
4	Supply for 4 sets of radio frequency monitoring tools for fixed usage	51,000,000.00
5	Supply for 4 sets of tools for analyzing spurious and emission of broadcasting radio	22,400,000.00
6	Research project for study the formulation of criteria for calculating remuneration for those whose the spectrum have been refarmed	3,330,000.00
7	Setting up the tracking system for prepaid register auditing	4,000,000.00
8	Development of prototype system of mobile users' registration, Phase 2	15,000,000.00
9	Development and improvement the database system of telecommunications numbering, Phase 2	10,500,000.00
10	Development of the care system of internet access for family	4,000,000.00
11	Development of tracking system and management of computer equipment and centralized instrument	1,920,000.00
12	Survey of areas and designing details for the provision of telephone signals and broadband service in 4,000 villages in marginal areas	19,500,000.00

Unit: baht

New projects for 20 projects		**270,461,000.00**
1	Outsourcing for interconnection and import of data from frequency monitoring system (Data Monitoring System)	3,000,000.00
2	Study project on guidelines for improvement and development of the automatic frequency management system	1,600,000.00
3	Supply for 21 sets of portable tools for the measurement of electromagnetic field strength	47,187,000.00
4	Supply for 15 sets of the automatic frequency monitoring tools	17,100,000.00
5	Supply for 16 sets of shoulder radiocommunications receiver in the frequency band of LF-SHF with equipment	42,800,000.00
6	Development of Call Center system, Phase 5	11,500,000.00
7	Measurement of quality of digital terrestrial broadcasting signals	7,250,000.00
8	Study project on guidelines for media regulation to counter violence and media promotion for peace	4,000,000.00
9	Knowledge enhancement on media regulation in the conflict situation	3,000,000.00
10	Study project on broadcasting model for strong religious belief suppression	4,000,000.00
11	Hiring consultant to study the standard of the remuneration reference rate calculation of telecommunication infrastructure sharing	2,000,000.00
12	Setting up the system for automatic random inspection of telecommunications numbers of service providers	750,000.00
13	Setting up the system for MNP data tracking and audit	6,000,000.00
14	Dissemination of knowledge to social target group	4,800,000.00
15	Internet and computer maintenance support for the potential USO Net centers	2,874,000.00

Unit: baht

New projects for 20 projects (Continued)		
16	Installation of USO log system	9,500,000.00
17	Survey of areas and designing details for the provision of telephone signals and broadband service in 15,732 villages in remote areas	91,200,000.00
18	Dissemination of knowledge on the effects of electromagnetic radiation of mobile telephone base station of systems on the safety in human health in 5 regions (Phase 3)	3,000,000.00
19	Publishing TV Guide and useful contents on digital TV viewing of the people	6,400,000.00
20	Setting up model of TV programs that provide the sign language interpreter, caption Service and audio description services	2,500,000.00



Strategy 3: To Develop Competition, Fairness and Efficiency in Communication Resource Management toward Thailand's Digital Community, the NBTC has allocated 296.919 million baht for the implementation of 33 projects.

Unit : baht

The budget commitments over the year for 10 projects		118,443,000.00
1	The enhancement of knowledge and understanding to people in the transition to digital switch-over	20,000,000.00
2	DSO communication program for the transition to digital terrestrial television viewing	30,000,000.00
3	Setting up guidelines for incentive regulation policy	1,313,000.00
4	Development of database of telecommunications service areas which covers the number of population as prescribed in the conditions of spectrum auction	15,000,000.00
5	Developing applications on mobile phone for the real-time report of quality of service	5,000,000.00
6	Setting up the SIM card registration system and management for mobile number activation in special rate for the Disabled under the conditions attached to the license to use spectrum for telecommunications service in the frequency band of 1800 MHz and 900 MHz	4,130,000.00
7	Production and dissemination of media to raise awareness and understanding of the public after the spectrum auction in the frequency bands of 1800 MHz and 900 MHz in 2016	9,680,000.00
8	Publication for enhancing knowledge and right understanding about the spectrum auction in the frequency bands of 1800 MHz and 900 MHz and network expansion for mobile service provision	19,400,000.00
9	Outsourcing for enhancing the management efficiency of the distribution of digital TV set-top-box	10,000,000.00
10	Development of information system for notifying inappropriate content and survey of the popularity of TV broadcasting programs viewing through communications devices of the Office of the NBTC	3,920,000.00

Unit: baht

New projects for 23 projects		178,476,500.00
1	Enhancement of the data link system between import/export radio communications devices licenses data and the National Single Window system of the Customs Department, Phase 3	4,000,000.00
2	Improvement of the management system for the determination of fees and service rates	4,100,000.00
3	Survey and study of the service charge structure and income level of television business operation in Thailand	2,742,000.00
4	Research project on follow-up and evaluation of the compliance with conditions attached to the licenses of non-frequency used television operators, subscription service.	5,000,000.00
5	Surveying and importing of data of broadcasting or television licensees for network service provision in broadcasting or television services, for non-frequency used services	3,000,000.00
6	Development of creative and innovative skill of the production of local radio program	3,624,000.00
7	Hiring consultant for developing training courses on management for the preparedness of digital TV service, in category of community service	3,500,000.00
8	Project under cooperation on the research study of guidelines to regulate program content in the convergence era	5,000,000.00
9	Project under cooperation on the research study to analyze program content for children, the youth and family	5,000,000.00
10	Study research on quality of program content of digital terrestrial television programs	5,000,000.00
11	Announcer camp training	2,000,000.00
12	Follow-up and evaluation of training organizer of announcers course in broadcasting and television service	2,400,000.00

Unit: baht

New projects for 23 projects (Continued)		
13	Setting up guidelines for promoting opportunity on trade service relating to television service	7,000,000.00
14	Study on guidelines for information import and process from the provision of mobile services for the regulation	4,300,000.00
15	Behavior survey on the use of mobile service by online applications in 2017	12,537,500.00
16	Establishment of database system and applications for sale promotion programs	1,273,000.00
17	Development of database system and telecommunications licensees regulatory system	8,000,000.00
18	Development of internet/online application submission for radiocommunications licenses, marks, and certificates	7,000,000.00
19	Development of regulatory database system for preparing architecture report and developing integrated information system for the follow-up and regulation of telecommunications business operation, Phase 2	5,000,000.00
20	Digital DAB Plus radio broadcasting for trial operation	15,000,000.00
21	Measurement of service provision level of digital terrestrial television network	18,000,000.00
22	Strengthening the broadcasting and television services in category of community service for providing service efficiently	5 ,000,000.00
23	Campaign on the transition to digital TV viewing and analog TV switch over	50,000,000.00

Strategy 4: To Support and Promote Innovation and Networking, the NBTC has allocated 75.550 million baht for the implementation of 11 projects

Unit: baht

The budget commitments over the year for 4 projects		**39,500,000.00**
1	The video documentary and multimedia to honour His Majesty the King on the occasion of the 90th birthday anniversary celebration	27,000,000.00
2	Applications contest on smart phones	7,000,000.00
3	Study on the operation impact of the Office of the NBTC in the three Southern border provinces areas	2,000,000.00
4	Development and installation of Enterprise Resource Planning (ERP) system, Phase 2 (2016-2017), of the Royal Project Foundation	3,500,000.00
New projects for 7 projects		**36,050,000.00**
1	Technology study report on OTT application over WiFi or fiber optic cable network and copper cable	2,150,000.00
2	Hiring consultant for reviewing the Broadcasting Development Plan and Report of Impact Assessment (RIA) on the Broadcasting Development Plan	3,000,000.00
3	International Symposium : Role of media in Universal Anti-Terrorism	4,000,000.00
4	NBTC - ITU Volunteers (Class 4)	4,200,000.00
5	Hiring consultant for studying measures for building network security	1,200,000.00
6	Strengthening the consumers network in broadcasting and television services in regional level	6,500,000.00
7	A collaborative project on news production on Royal Affairs and live broadcasting of the royal ceremony and the state ceremony for the provision of broadcasting and television services	15,000,000.00

3.2 Budget allocated to the Fund as specified by law at the amount of 510.000 million baht, consisted of 1) the Broadcasting and Telecommunications Research and Development Fund for the Public Interest at the amount of 500.000 million baht 2) the Technology Development Fund for Education under the National Education at the amount of 10.000 million baht, totally 510.000 million baht (in accordance with Strategy 3: Promotion of free and fair competition, management of communication resource for supporting Thailand towards digital community).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7

Obstacles and Problems in the Broadcasting and Telecommunications Business

Obstacles and Problems in the Broadcasting andTelecommunications Businesses

1. Broadcasting services

Since 2015, the digital terrestrial operators have faced with the problems of business operation due to economic situation that having a number of television channels but the number of advertising supporters is still the same and that put the operators in economic problems. Therefore, to support and enable the operators to continue their business operation without any impact and problems on driving the economy of the country in overall, the NBTC has resolved the problems of the digital terrestrial television operators as follows:

(1) Following-up and regulating the broadcasting or television licensees for the provision of television network service for subscription service to ensure that they have broadcasted the general television service (digital terrestrial television), both in the category of public service or commercial service, in the service order No. 1-36 respectively, according to the ascending order of channel numbers only in order to support the public's viewing of digital television in all platforms.

(2) Regulating the network installation of radiocommunications stations for the transition to digital TV switch over which has already covered 95.1 percent of the areas throughout the country. The implementation has been in line with the plan for network expansion and area coverage as defined.

(3) Supporting the public in the transition to the digital terrestrial television viewing by having distributed 13.571 million digital television coupons in phase 1 to the people for redeeming or buying Set-Top-Box or integrated Digital Television (iDTV) and having continuously publicized information on the viewing of digital terrestrial television to the public.

(4) Having set up the measure for promoting the radio and television broadcasting and telecommunications business for public benefits and proposing its recommendation to the National Council for Peace and Order to enforce the measure under Section 44 in order to build the confidence of operators, both public agencies and private operators, promote the efficiency of the broadcasting, television and telecommunications businesses, and create the stability of the economy system. The Head of the National Council for Peace and Order thus has an Order No.76/2016 dated 20 December 2016 on the measure for promoting the radio and television broadcasting and telecommunications business for public benefits in which the main content consists of:

- Extending payment period for spectrum auction license fees, which was divided into 4 installments, a year for an installment, and the licensees had already paid for 3 installments, in the 4th installment by extending period for payment submission into 2 installments with 1.5 percent of interest per year. For the excess of the minimum fee, the payment shall be made for 6 installments which 3 installments have already been paid; therefore the rest 3 installments payment shall be extended to 6 installments over a period of 6 years with 1.5 percent of interest per year.

- Having arranged the financial support from the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit on the television signal transmission of general television service via satellite for 3 years.

(5) Setting up measures to reduce the annuity to be delivered to the Broadcasting and Telecommunications Research and Development Fund for the Public Benefit so that the licensees are able to have some type of expenses deducted before submitting the annuity to the Fund.

(6) Adjusting the annual business license fee rate so that the broadcasting and television business license fees be appropriate and in line with the current economic situation and the regulation of the broadcasting and television services and shall not be a burden to operators or users.

2. Telecommunications Services

In continuation on the request of the telecommunications licensees that made to the NBTC asking for the reduction of the timeframe of the approval process for the exercise of rights according to the NTC Notification on criteria and procedure regarding the exercise of rights to set up or erect poles, place lines or lay ducts or install any other associated equipment for the provision of telecommunications services B.E. 2552 (2009) (or Right of ways) according to Section 39 of the Telecommunications Business Act B.E. 2554 (2011), the NBTC has therefore revised the approval process for the exercise of rights according to the NTC Notification on criteria and procedure regarding the exercise of rights to set up or erect poles, place lines or lay ducts or install any other associated equipment for the provision of telecommunications services B.E. 2552 (2009) (or Right of ways) according to Section 39 of the Telecommunications Business Act B.E. 2554 (2011), to be faster by reducing duration for consideration from 60 days to 30 days which will facilitate the operators in applying for the exercise of rights of ways, and as a consequence, the Office of the NBTC will reduce the process and duration for consideration on the requests respectively.

Moreover, the NBTC has revised the NTC Notification on criteria and procedure regarding the exercise of rights to set up or erect poles, place lines or lay ducts or install any other associated equipment for the provision of telecommunications services to be in accordance with current situation and the universal telecommunications service obligation including to ensure of the utilization of telecommunications resources and facilities without the duplication on investment, protection of rights in telecommunications business operation as well as the protection of health and scenery, security of state, safety and public benefit. The new criteria on right of ways has prescribed that the licensees shall organize or manage the laying of communication lines to be nice and orderly, whether the lines having been used or have not used, to be in the specified period set by the NBTC which will help reducing the environmental impact, reduction of consideration process of approval period from 60 days to 30 days, documents shall be submitted through E-doc to apply for the exercise of right of ways for a more rapid process and reduction of paper consumption and the operators are able to check on their requests through the E-doc as well, and the Office of the NBTC will link the data of Geographic Information System (GIS) with the Metropolitan Electricity Authority and Provincial Electricity Authority.

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