

# Aeronautical Radio of Thailand Limited

# Annual Report for Fiscal Year 2017

(1 October 2016 – 30 September 2017)

# CONTENTS

| Message from the Chairman                                | 1  |
|--|----|
| Message from the President                               | 3  |
| Corporate Overall Information                            |    |
| Corporate Information                                    |    |
| Company's Background                                     | 6  |
| Vision, Mission and Role and Responsibility              | 7  |
| Statement of Directions                                  | 9  |
| Corporate Plan   | 10 |
| Company's Services                                       | 11 |
| Factors Impacting Performance                            | 14 |
| Outlook of Aviation Industry and Trends in Air Traffic   | 15 |
| Company's Structure                                      |    |
| Organization Chart                                       | 17 |
| Functions  | 18 |
| The Committees   | 19 |
| Company's Management                                     | 22 |
| Human Resource and Organization Development              | 26 |
| Share Capital and Shareholders Structure                 | 27 |
| Important Plans and Investments                          |    |
| Major Plans and Projects                                 | 32 |
| Major Investment Projects for the Next 3 Years           | 36 |
| Important Role in the Global, Regional Forum, and Others | 39 |
| Company Operating Performance                            |    |
| Air Navigation Services                                  | 43 |
| Air Traffic Flow Management Service (ATFM Service)       | 48 |
| Design to Flight Operation and Airspace                  | 50 |
| Aeronautical Communication Services                      | 51 |
| Aeronautical Information Services                        | 51 |
| Business Services  | 52 |
| Human Resource Management                                | 56 |
| Performance on Investment Expenditure                    | 60 |
| Performance Appraisal                                    | 60 |
| Awards   | 61 |

|                 | Highlighted Activities  | 62  |
|-----------------|---|-----|
| Organization Ma | anagement   |     |
|                 | Risk Management   | 64  |
|                 | Business Continuity Management                                    | 65  |
|                 | Internal Control  | 65  |
| Good Governan   | nce Information   |     |
| Repo            | rt on the Implementation of Corporate Governance Policy           |     |
|                 | The Corporate Government Policy                                   | 65  |
|                 | The Board of Directors  | 67  |
|                 | Roles and Responsibility of Board of Directors                    | 81  |
|                 | Remuneration Rate for the Board of Directors and Committees       | 93  |
|                 | Remuneration Rate for the Executive Management                    | 96  |
|                 | Conflict of Interests Policy                                      | 96  |
| Opera           | ation Report  |     |
|                 | The Audit Committee's Performance Report                          | 97  |
| Finan           | ncial Report  |     |
|                 | Report of the Board of Directors' Responsibility to the Financial | 102 |
|                 | Status  |     |
|                 | Summary of Financial Report                                       | 103 |
|                 | The Company's Operation Analysis                                  | 104 |
|                 | Financial Status Analysis   | 105 |
|                 | Cash Flow Analysis  | 107 |
|                 | Financial Ratio Analysis  | 108 |
|                 | Financial Trend   | 109 |
|                 | Auditor's Report  | 111 |
|                 |   |     |

#### Message from the Chairman

During the fiscal year 2017, the executive staff and all employees of Aeronautical Radio of Thailand Limited have an important mission to facilitate travel for Thai citizens and the heads and distinguished representatives of governments of friendly countries, who came to attend the Royal Cremation for His Majesty King Bhumibol Adulyadej, who is very dear to the Thai people. We are proud to be a part of this national mission and we therefore dedicate our work to His Majesty the late King for the final time.

In 2017 the Country's aviation industry continues to face challenges from events that affect it. Whether it is overseeing all aviation and related areas in Thailand by assuring that all standards are maintained at the required levels, or suppressing zero-dollar tours from China. The volume of flights earlier in the year was down by a significant factor. However, with such challenges, the air traffic in Thailand continues to grow steadily amid other factors such as, supporting the economic policies of the government and the growth amongst low-cost airlines.

Within the aviation environment, the Company remains committed to continuing to raise the quality, safety and standards of service in order to reach or rise above the international best practices and to expanding its capacity to accommodate increased air traffic volume, which, therefore meeting the needs of airspace users including airlines flying into the area of responsibility of Thailand.

As a member of ASEAN, the Company has assisted the Country by actively supporting the implementation of the development and management of air traffic in the Asia-Pacific Region. In addition, in this 50<sup>th</sup> anniversary of ASEAN, the Company has also assisted in preparation of an ASEAN ATM Master Plan for air traffic management in ASEAN. This plan has created a "seamless ASEAN sky" based on this concept. Additionally, as a member of the aviation world, the Company has partnered with airlines operating domestic flights on an experimental level referred to as, Type Continuous Descent Operations (TCDO). This will reduce the fuel consumption of airlines operating in the approach area therefore reducing air pollution.

Currently projects of strategic importance are making significant progress, such as, the Air Navigation Services Infrastructure Development Project, the Establishment of an ATM Network Management Centre and the Air Navigation Service Infrastructure Development Project, to improve efficiency of communications and navigation aid systems at major airports nationwide.

Results of the audit under the Universal Security Audit Program – Continuous Monitoring Approach (USAP-CMA) by the International Civil Aviation Organization (ICAO), found that the Company is the only agency which has no defects or any further recommendations for improvements. This is testament to the commitment and dedication of our staff and the willingness of leaders in the development process as well as the potential of people involved.

On behalf of the Board of Directors who provides policy, oversees and monitors the performance of this major mission, I would like to take this opportunity to thank the shareholders, service users, stakeholders, the management and staff. I can ensure you that the Company will strive to develop and provide efficient ongoing services for the benefit of shareholders and stakeholders.

1 C.

(General Kanit Sapitaks) Chairman of the Board of Directors

#### Message from the President

In the fiscal year 2017, there have been circumstances or factors that have affected the amount of flights at certain times or more. The world's aerospace business has continued to grow steadily. Statistics from the volume of air traffic show that flights have increased by 4.6 percent from a year ago. The average annual growth rate in the past 10 years, from the 2008-2017 fiscal years, is equal to 8 percent and is expected to increase to more than one million flights in 2018.

Aeronautical Radio of Thailand Limited continues its operation with an aim to raise its service quality in order to meet the highest level of safety standards, and the requirements and expectation of service users in all aspects. The Company's planned projects will increase a scalable capacity in response to the rise in air traffic volumes. Upon the implementation of these projects, the service level of the Country is expected to rise to reach international standards. The traffic growth in the future can be served by using state-of-the-art technology and hence the Country's capacity in competiveness will increase. The development of key projects under the 2017-2021 Corporate Plan are as follows:

- Development of Thailand Modernization CNS/ATM System: TMCS Project. The TMCS Project was approved in principle by the Cabinet on 3rd May 2011. The Objective is to develop the infrastructure for the provision of air navigation services that comply with international standards of the new systems and have sufficient capacity to handle the increasing volume of air transport. The Company has already implemented the installation of systems/equipment and carried out preliminary tests. In 2017, training was provided to air traffic controllers and engineers in order to be ready to work with the new system. The current system and the new system have been primarily used for parallel trials for Bangkok Approach Control service at Suvarnabhumi Airport since 25th April 2017. Currently the update/review and a detailed plan outlining a time frame for the transfer of operations to the rest of the Country at other airports, including Bangkok Area Control Centre, are on schedule as planned.

#### - Thailand Aviation System Capacity Enhancement Project (TASCEP).

The Company has hired a consultant firm (National Air Traffic Services from the United Kingdom) to conduct a study designed to analyze the Country's aviation system and formulate development plans of the national aviation system consisting of both Airspace Systems, Airport systems and other relevant plans. The study expected to be completed and submitted to the Ministry of Transport in 2018, will be used as a set of master plans for further implementation by focusing on cooperation between aviation agencies from both the civil aviation and the security bodies. The TASCEP will improve the efficiency of airspace management and offer a scalable way to support the aviation systems for the sake of economic development and to support the national security mission of Thailand.

- Distributed Multi-Nodal Air Traffic Flow Management (ATFM) Network Project. The project is a Cooperation Program among countries in the Asia/Pacific Region. The objective of the program is to optimize the management through the balance between the demand and flight capacity of airports and to enhance the operational management of air traffic between countries. The project began in 2011 in cooperation with the Civil Aviation Authority of Singapore that initiated a development and test system known as Collaborative Decision Making (CDM) between Thailand and Singapore, which has been expanded to the Hong Kong Civil Aviation Department. This has led to the establishment of a Distributed Multi-Nodal ATFM and also expanded cooperation to other countries in Asia and the Pacific, such as Malaysia, Australia, Cambodia, Indonesia, the Philippines, Vietnam, Laos and Myanmar. In 2017 the Company and organizations of participating countries have continued their work with the AFTM concept by collaboratively managing air traffic flow into airports and airspace under a limited ATS capacity in real operational situations. The conceptual framework and procedures for post-operations analysis has been developed for evaluation and improvement of the operations. The technical requirement for support systems has also been done. The feasibility study for implementing international standard forms for information exchange and drafts of the Interface Control Document for the connection of support systems between organizations have been implemented. These developments will be used to establish the technical requirements for the implementation of the connecting support systems of the countries in the Region.

- The Common Regional Virtual Private Network (CRV) Project. The objective of the project is to upgrade the Company's communication network in accordance with ICAO's recommendations that countries improve communication connections worldwide. The CRV network will be used to replace the current aeronautical connections, which will serve the increasing data usage effectively in the future. In 2013, ICAO Asia and Pacific (APAC) set up the CRV Task Force (CRV TF) with the goal of studying CRV network concepts and selecting the best provider of CRV for the Region. Representatives from the Company had been nominated as the CRV TF Chairman and the CRV TF has completed the designated task in 2017. The CRV provider for the Region was selected in November 2017. The Company and Civil Aviation Department (CAD), Hong Kong, China were the first city-pairs in the world to conduct CRV operational readiness trials. The trial was successful and provided assurance that the CRV network is ready for operation. Currently, the contract with the CRV network provider will be the next phase and the Company will follow the guidance from ICAO with regards to the use of CRV.

In preparation for the ICAO's inspection under the Universal Safety Audit Program -Continuous Monitoring Approach (USAP-CMA), the Company established a committee to oversee the safety standards of air navigation systems and a working group to set up the applicable guidelines and all relevant preparations for the audit. The audit has already been carried out in July 2017 and the result was satisfactory as the Company had no findings at all. On innovation and achievement, the Company's innovation "Air Traffic Flow Management Platform" won the HIS Jane's ATC Award in the Type of "Service Provision" at the World ATM Congress 2017. This award is granted to an organization that has developed innovative technology that helps increase safety levels, capacity in air navigation services and reduce pollution. The AEROTHAI ATFM Platform is a system to forecast traffic volume which can then be used to calculate take-off time. The Company's "Air Traffic Flow Management Support System for Adverse Conditions" also won an award in the 45th International Exhibition of Inventions in Geneva 2017 (the Bronze Medal in P class: Transport – Motor Vehicles – Ships – Aviation Accessories) , held in Geneva, Switzerland.

Another major result of the Company's performance has been an evaluation under the Memorandum of Agreement between the Government and the Company with the State Enterprise Policy Office as the overseer that showed the following result of 4.3563 from 5 in 2016 which was higher than 4.1220 in the previous year.

The Company's business continuity management system was taken seriously and continuously. The risk assessment was conducted in line with international guidelines as set by the Finance Ministry. Risk management exercises were carried out using different scenarios at the central and all provincial Air Traffic Control Centers so that the Company is well prepared for any event that may occur.

In 2017 the Company received a credit rating review from TRIS Rating affirmed at "AAA" (Triple A) with the outlook assigned as stable. The ratings reflect that the Company is an air navigation services provider with quality and efficiency, having a strong financial position and experienced management.

2018 will be a significant year as the Company will host the 22<sup>nd</sup> CANSO Global ATM Summit & Annual General Meeting, a venue for discussion of global leaders from across the Air Traffic Management Industry. This year will also be the 70<sup>th</sup> anniversary of the founding. On this important occasion, my management team and all employees will dedicate themselves to working at full capacity for the benefit of national and regional aviation industry and for the Company to move forward into a new decade steadily and sustainably.

On behalf of the Company and its staff, we would like to thank shareholders, service users and stakeholders, who have always given their trust and supported the Company's operations. We assure you that the Company will continue to maintain the quality of service and standards in order to meet all stakeholders' requirements. In addition to this, we will continue to develop the safety and quality of the Air Navigation Services whilst remaining cost efficient at all times.

(Mrs. Sarinee Angsusingha) President

# Corporate Information Company Background

After the First World War, the Post and Telegraph Department had been assigned by the Royal Thai Government to assume responsibility of providing Air Traffic Control and Aeronautical Communications to international aircraft passing over and landing in Thailand. These ceased with the expansion of the Second World War to Asia, which prevented commercial aircraft taking to the sky. When the Second World War ended, international civil aviation resumed. On 15<sup>th</sup> April 1948, Aeronautical Radio Inc. (ARINC) of the United States of America, International Aeradio Ltd. (IAL) of the United Kingdom and various airlines operating services to Thailand jointly founded Aeronautical Radio of Siam Limited (AEROSIAM) with the consent of the Royal Thai Government to provide Air Traffic Control services and Aeronautical Communications services in accordance with ICAO's standards and recommended practices.

Later the Thai Government recognized its capability and the importance of the Company's responsibility concerning national security and aviation development. Therefore, the Government acquired a majority of the share capital from the founding airlines and changed its name to Aeronautical Radio of Thailand Limited (AEROTHAI) on 1st November 1963.

International airlines operating services to Thailand were also welcomed as shareholders. The Company's status has since become a state enterprise under the Ministry of Transport, operating as a limited company. The Company operates on behalf of the Government as a non-profit organization to provide safety services which are Air Traffic Control and Aeronautical Telecommunications services in the Bangkok Flight Information Region (FIR) with the network linking with other countries. In addition, there is a business sector which provides aviation related services, both domestic and overseas.

The Company operates with a commitment to maintain a quality of service in accordance with international standards and to upgrade technology and human resources with the goal to enhance national capacity and develop the aviation industry in our Country.

### Vision, Mission and Role and Responsibilities

#### Vision

"To be Air Navigation Service Provider with International Standards of Excellence" (Vision for AEROTHAI development and operations in the strategic framework 2017-2021.)

#### Mission

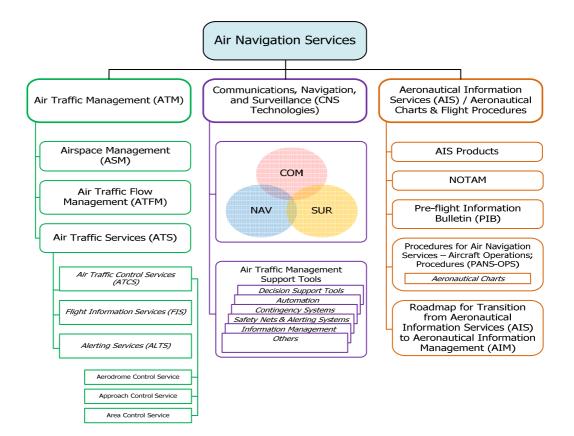
"To be the national air navigation service provider that meets users' requirements in safety, standards, and efficiency while realizing the responsibilities to all stakeholders and national interests."

#### Role and Responsibilities

AEROTHAI's role and responsibilities include:

- 1. Air Traffic Management (ATM) within the Bangkok Flight Information Region for the safety and efficiency of airspace users' flights in Thailand.
- 2. Aeronautical Communications, Navigation, and Surveillance (CNS) System/Services, and
- 3. Aeronautical Information Services (AIS) and Aeronautical Charts

Also included is the related aeronautical communications services to airline Operators and other work assigned by the government.



#### The overall picture of AEROTHAI Air Navigation Services

The Company provides air navigation service within Bangkok Flight Information Region (Bangkok FIR) with Aerodrome Traffic Zone (ATZ) and Terminal Control Area at 35 airports nationwide, including Area Control for ATS Enroutes utilizing the Air Traffic Management System, Communications, Navigation and Surveillance System (ATM/CNS), the summary of core business functions are as follows:

#### AEROTHAI Air Traffic Management (ATM) comprises of:

- (i) Airspace Management (ASM)
- (ii) Air Traffic Flow Management (ATFM)
- (iii) Air Traffic Services (ATS), which consists of:

a. Air Traffic Control Services (ATCS), which can be further categorized based on the service areas as follows:

- Aerodrome Control Service; providing the control service for all traffic on the maneuvering area of an aerodrome and all aircrafts flying in the vicinity of an aerodrome,
- Approach Control Service; providing the traffic control service for arriving and departing controlled flights to/from an aerodrome. Approach Control Units; established to provide approach control services, are located either at the AEROTHAI headquarters or at airports.
- Area Control Service; providing the control service to all controlled flights flying in Bangkok FIR. Area Control Centre (ACC) is located at AEROTHAI headquarters.
- b. Flight Information Services (FIS)
- c. Alerting Services (ALTS)

**Communications, Navigation, and Surveillance (CNS) infrastructure service** comprises of:

- (i) Communications System: for provision of the Aeronautical Fixed Service (AFS) for domestic communications via Aeronautical Telecommunication Network (ATN), as the main network and via Aeronautical Fixed Telecommunication Network (AFTN) for organizations in the country and abroad, together with the communication between air to ground units used by air traffic controllers and pilots.
- *(ii)* Navigation System; for the provision of navigation of the aircrafts accurately and unerringly, all in en route area, approach area and aerodrome area. The system also includes the Performance Based Navigation (PBN).

(*iii*) Surveillance System; for the provision of location, co-ordinates and height level of the aircrafts in order to provide the information and to follow the aircrafts' route for air traffic services. The system consists of the types that are used for aerodrome, approach and en route air traffic service as well as those used to keep track of the aircrafts and vehicles moving in the airport surface.

Also included is the provision of ATM Automation/Support Tools, e.g. Flight Data Processing System (FDPS), Surveillance Data Processing System (SDPS), for supporting overall air navigation services.

#### Aeronautical Information Service (AIS)

The Company is the main Aeronautical Communication Centre for Thailand with the duty of receiving, transmitting, relaying and distributing Aeronautical Information Services (AIS) information and messages to pilots and staff as Aeronautical Information Services Centre (AISC). AIS information such as Aeronautical Information Publication (AIP), AIP Supplement, Aeronautical Information Circular (AIC), Notices to Airmen (NOTAM), En route Chart and Aeronautical Information Regulation and Control (AIRAC) provide aeronautical information and messaging services for aircraft flying on domestic and international routes.

Other than the above mentioned responsibilities and services, AEROTHAI uses its expertise and research and development (R&D) capability to provide other related services to further fulfill customers' requirements within the aviation industry of Thailand and beyond. Such services include trunked radio for airlines and users at airports, communication networks, product manufacture and development, flight inspection, training and consultancy, aeronautical information data, calibration, as well as turnkey projects supporting other organizations.

#### Statement of Directions (SODs)

#### State Enterprise Policy

"To be the mechanism driving economic and social strategies on the basis of effective operation in line with good corporate governance".

#### State Enterprise in Transportation Field Policy

To develop infrastructure and transporting systems that meet the standard connecting transport networks and to provide services in order to support logistics and system development that will increase the country's competitive capability as well as to promote the private sectors' role.

#### Corporate Policy

To develop networks, equipment and work system with innovation and stateof-the-art technology as well as to provide air navigation services with safety, rapidity, punctuality, meeting international standards and increasing capability to earn additional income from related services.

#### Corporate Plan

Under the vision, "To be Air Navigation Service Provider with International Standards of Excellence," including a corporate mission of providing air navigation services, quality management across the enterprise for security and sustainability, and self-assessment based on quality assessment systems for state enterprises, AEROTHAI's strategic development and operation in the period from 2017-2021 are as follows:

| Strategic Issue                | Strategic Objective                                       |
|--------------------------------|---|
| 1. Safe and Efficient Air      | 1. To ensure safety with standards in all phases of       |
| Navigation Service             | flights.  |
|                                | 2. To increase capacity and efficiency in air traffic and |
|                                | to be environmentally friendly.                           |
| 2. Creating Professionals      | 3. To develop human resource systems in driving           |
|                                | organization for sustainable growth.                      |
|                                | 4. To improve workplace environments and increase         |
|                                | employee engagement.                                      |
| 3. Development Towards         | 5. To retain Good Corporate Governance and to             |
| High Performance               | manage organizational changes efficiently.                |
| Organization (HPO)             | 6. To enhance infrastructure, information technology,     |
|                                | knowledge management, and innovation in order             |
|                                | to achieve all the organization's goals.                  |
|                                | 7. To develop all TQM processes in order to achieve       |
|                                | efficient outcomes.                                       |
|                                | 8. To efficiently manage the organization's finance.      |
| 4. Creating Value for Aviation | 9. To increase the organizations' roles and develop air   |
| Industry and Stakeholders      | navigation service systems with the cooperation of        |
|                                | the aviation industry.                                    |
| 5. Creating National           | 10. To develop air navigation service infrastructures     |
| Competitiveness                | and support the setting up of a long-term national        |
|                                | air transport plan.                                       |

#### Company's Services

AEROTHAI, as Thailand's state enterprise under the Ministry of Transport, has been assigned to provide air traffic control, aeronautical communication and related services as required by air transport operators and according to international standards and recommended practices established by the International Civil Aviation Organization (ICAO) with safety and efficiency. Under the contract with Ministry of Transport, AEROTHAI agreed to serve all users without making any profit, and receive the service fees through the air navigation service charge paid by the users in a fair manner.

#### Location and Website AEROTHAI Head Office

102 Soi Ngamduplee, Tungmahamek, Sathon, Bangkok 10120 Thailand Tel: 0 2287 3531-41 Fax: 0 2287 3131 Website: <u>www.aerothai.co.th</u>

#### Hat Yai Air Traffic Control Centre

100, Moo 3, Sanambin Road, Klong La Sub-district, Klong Hoi Kong District, Songkhla 90115 Tel: 0 7425 1051-60 Fax: 0 7425 1339

#### Phuket Air Traffic Control Centre

200 Khao Bo Sai, Maikhaow Sub-district, Thalang District, Phuket 83110 Tel: 0 7632 7251-5 Fax: 0 7632 7258-9

#### Surat Thani Air Traffic Control Centre

Surat Thani Airport, Huateuy Sub-district, Phunphin District, Surat Thani 84130 Tel: 0 7744 1132 Fax: 0 7744 1133

#### Chiang Mai Air Traffic Control Centre

60 Sanambin Road, Suthep Sub-district, Mueang District, Chiang Mai 50200 Tel: 0 5327 7776 Fax: 0 5327 7600

#### Phitsanulok Air Traffic Control Centre

Sanambin Road, Arunyik Sub-district, Mueang District, Phitsanulok 65000 Tel: 0 5530 1422 Fax: 0 5530 1450

#### Nakhon Ratchasima Air Traffic Service Engineering and Operating Centre

Baan Piman, Tha Chang Sub-district, Chalermprakiat District, Nakhon Ratchasima 30230 Tel: 0 4425 7670 Fax: 0 4425 6576

#### Udon Thani Air Traffic Control Centre

Mak Khaeng Sub-district, Mueang District, Udon Thani 41000 Tel: 0 4224 3735 Fax: 0 4224 9734

#### Ubon Ratchathani Air Traffic Control Centre

Thepyotee Road, Naimueng Sub-district, Mueang District, Ubon Ratchathani 34000 Tel: 0 4524 0798 Fax: 0 4524 0798

#### Hua Hin Air Traffic Control Centre

Mooban Bofai, Hua Hin Sub-district, Hua Hin District, Prachuap Khiri Khan 77110 Tel: 0 3252 0831 Fax: 0 3252 0833

|  | 2017      | 2016      | 2015      |
|--|-----------|-----------|-----------|
|  | 2011      | 2010      | 2013      |
| Operating Performance (Baht : Million) <sup>1/</sup> |           |           |           |
| Total Income   | 12,194.11 | 11,638.93 | 10,773.38 |
| Total Expenditure                                    | 10,193.64 | 9,276.06  | 8,863.97  |
| Overcollection to be refunded to                     | 2,000.47  | 2,362.87  | 1,909.41  |
| Member Airlines                                      |           |           |           |
| Remark 1/ Separated Financial Statements             |           |           |           |
|  |           |           |           |
| Financial Status (Baht : Million) <sup>2/</sup>      |           |           |           |
| Total Assets   | 14,428.62 | 13,385.61 | 12,089.96 |
| Total Liabilities                                    | 13,463.86 | 12,465.33 | 11,200.73 |
| Total Shareholders' Equity                           | 964.76    | 920.28    | 889.23    |
|  |           |           |           |
| Finacial Ratio                                       |           |           |           |
| Debt-to-Equity Ratio (times)                         | 13.96     | 13.55     | 12.60     |
| Debt-to-Equity Ratio (times)                         | 6.31      | 7.19      | 8.25      |
| (Not including accumulated                           |           |           |           |
| Over collection)                                     |           |           |           |
| Fix Charge Coverage Ratio (times)                    | 1.64      | 1.44      | 1.21      |
| Remark 2/Consolidated Financial Statements           |           |           |           |

Summary of the Financial Reports

- 13 -

#### Factors Impacting Performance

1. ICAO's Global and Regional Air Navigation Plans

In 2016 the 39th Session of the ICAO Assembly adopted the fifth edition of the Global Air Navigation Plan (GANP) as a strategic direction for global air navigation system development. Compared to the previous edition significant changes made in the current edition of GANP were the adjustment of target availability timelines of technologies and procedures specified in Aviation System Block Upgrades (ASBUS), the major element of GANP presenting the strategic implementation approach. Particularly the implementation period of each ASBU Block has been extended to 6 years instead of the 5-year period previously defined in the fourth edition. The Performance Improvement Areas (PIAs) are still categorized into 4 areas as follows:

- 1) Airport Operations;
- Globally Interoperable System and Data through Globally Interoperable SWIM;
- Optimum Capacity and Flexible Flights through Global Collaborative ATM;
- 4) Efficient Flight Path through Trajectory-Based Operations

At the regional level in 2016, the 27th Meeting of ICAO Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG/27) adopted the Asia/Pacific Seamless ATM Plan, Version 2.0 and regional strategic objectives to achieve seamless ATM operations in Asia/Pacific region. In the Asia/Pacific Seamless ATM Plan, technology and procedures stated in ASBUs, which are considered necessary for Asia/Pacific's operational environment, are specified together with their corresponding implementation priorities. In addition to this in order to further enhance the seamless ATM operations, performance objectives in terms of Preferred Aerodrome/Airspace, Route Specifications (PARS) and Preferred ATM Service Levels (PASL) are also identified including human performance as well as civil/military cooperation. Compared to the previous version of the Asia/Pacific Seamless ATM Plan the target implementation date specified in the current version is extended from 2018 to 2019 in order to have it in line with the fifth edition of GANP. Furthermore, the Block 1 ASBU modules considered essential for Asia/Pacific region are also included.

Taking into account the importance of the aforementioned global and regional plans, AEROTHAI has set its strategic objectives and strategies in accordance with those plans and continuously ensured that the required developments are in place in a timely manner.

#### 2. ASEAN Economic Community (AEC)

The ASEAN Economic Community (AEC) was officially established on 31<sup>st</sup> December 2015. In the area of air transport, ASEAN plans to establish an ASEAN Single Aviation Market (ASAM) to support AEC's objectives in harmonizing the airspace of member states to ensure safe, secure, and efficient air transport within ASEAN and beyond. To support the ASAM Roadmap the ASEAN Transport Strategic Plan 2016-2025, also known as the Kuala Lumpur Transport Strategy Plan (KLTSP), has addressed specific goals, actions and milestones, particularly in the area of Air Traffic Management (AT-4 Enhance Air Traffic Management Efficiency and Capacity through a Seamless ASEAN Sky). AEROTHAI as part of the Thailand delegation, has participated in various ASEAN forums in order to push forward the actions and milestones supporting ICAO's efforts and implementation plan for ATM in the APAC region, developing and implementing the ASEAN Air Traffic Management (ATM) Master Plan in accordance with ICAO's Asia Pacific Seamless ATM Plan and the Global Air Navigation Plan's ASBU Framework, and exchanging information on ASEAN air navigation infrastructure and services.

AEROTHAI is proud to be part of the outstanding achievement under the KLTSP in 2017 where ASEAN celebrates its 50<sup>th</sup> anniversary with the adoption of the ASEAN ATM Master Plan three years ahead of schedule as stated in the KLTSP. It is a five-year plan to guide member states to harmonize their implementation plans in order to realize the concept of a Seamless ASEAN Sky, delivering harmonized, interoperable and safe ATM operations in contiguous airspace within the region and enabling all airspace users to transit smoothly across boundaries without any noticeable change in the type or quality of air traffic services received. Development programs are categorized into five focus areas, Aerodrome, Terminal, En-route, Civil/Military Cooperation, and Information Management.

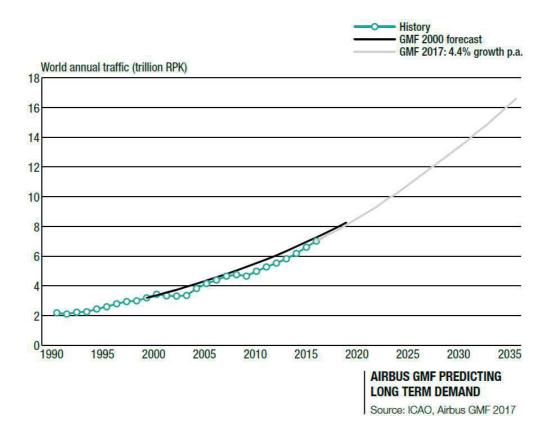
#### Outlook of Aviation Industry and Trends in Air Traffic

The outlook of the aviation industry and future trends of air traffic illustrates that the aviation industry is one of increasing growth and value. Airbus forecasts that air traffic will grow at the estimated annual growth rate of 4.4% during the period of 2018-2036, and that air traffic will double every 15 years. In fact, the forecast also indicates that the Asia/Pacific region will experience the highest annual growth rate of 5.5%, which is higher than the rates of Europe (3.3%) and North America (3.4%). This is in part due to the positive effect of liberalization in the aviation sector, increased passenger volume, and travel connections.

For Bangkok FIR, traffic has continued to grow since 2010, despite several events or factors which have caused short term effects on traffic volume from time to time. Over the past 10 years, traffic grew at the annual growth rate of 8% and an accumulative 10-year rate of 106% (compared 2017 with 2008). In 2017 the total air

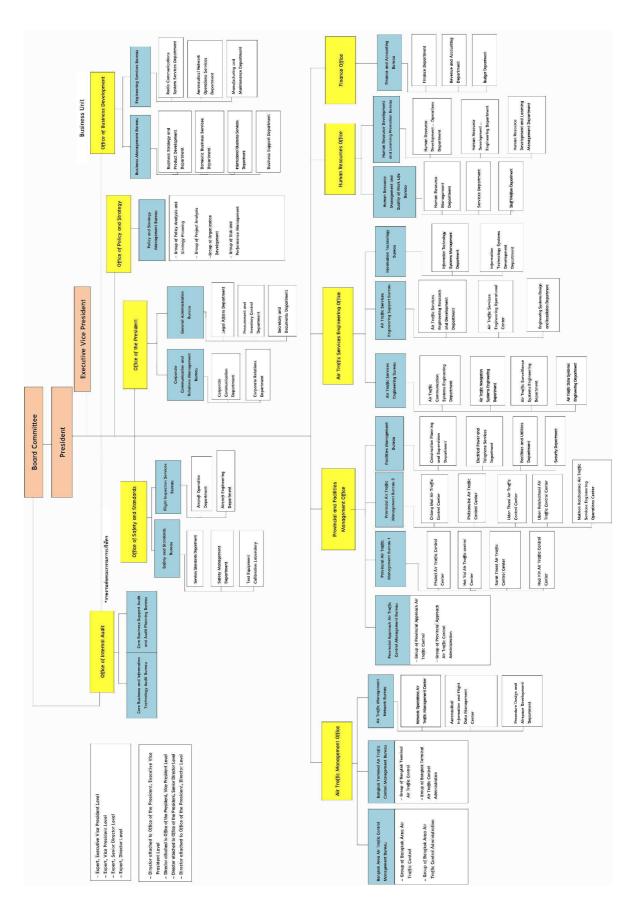
traffic in Bangkok FIR was 950,661 flights, a 4.6% increase from the previous year. It is expected to reach more than one million flights in 2018, a 6% increase compared to 2017.

In the Fiscal Year 2017 several major events have affected flight volumes such as Chinese tourism trends within Thailand. Thailand's audit results from the Universal Safety Oversight Audit Program–Continuous Monitoring Approach (USOAP-CMA), has caused the government to issue various measures over time. This trend will continue to positively due to the results of the assessment of safety standards improving in Thailand. All significant safety concerns were lifted in October 2017 by ICAO. Another positive factor is the steady increase in the number of flights between Thailand and China. Thailand is one of the top destinations for Chinese tourists and the demand remains high.



#### Company's Structure

#### Organization Chart



#### **Functions**

The Company's organizational structure has the Board of Directors as the overseer who monitors the operations of the Company with the President holding the highest executive management position. The structure is divided into 10 bureaus with the Vice President responsible for each division. Details of the branches are as follows:

1. The Office of President is responsible for good corporate governance and social responsibility, codes of conduct, supporting the Boards of Directors and shareholders, legal matters, procurement, documentation and secretary, communications and stakeholder relationship management.

2. The Office of Internal Audit is responsible for the independent audit, review and evaluation of the reliability and completeness of work systems and directly reports the findings to the Audit Committee.

3. The Office of Policy and Strategy is responsible for the policy analysis, strategy planning, organization development, project analysis, and performance monitoring and risk management.

4 . The Office of Business Development is responsible for the business strategy and activities with governmental and private sectors both domestic and overseas.

5. The Office of Safety and Standards is responsible for the standards of services and safety management of the core business operations.

6. Air Traffic Management is responsible for the efficient provision of air traffic management with the following areas:

- En – route within the Bangkok FIR

- Aerodrome and Approach Control

- Airspace Management and Flexible Use of Airspace

- Aeronautical Information Service

- Flight Procedures Design and Airspace Development

7. Provincial and Facilities Administration is responsible for the provision of air traffic control services in the Bangkok FIR in provincial airports, administration of the provincial air traffic control centres, power supply system, utilities, building and premises, security system, and safety, occupational health and working environment management.

8. Air Traffic Service Engineering is responsible for the administration of air traffic service engineering in design, procurement, development, installation, maintenance and management of supporting systems for the provision of air traffic services as well as efficiently and effectively developing and administering the information technology systems.

9. Human Resource is responsible for the administration and development of human resource so that the Company's personnel will have the potential, behavior and rewards in compliance with the Company's strategy. 10. Finance is responsible for the efficient administration of budget, finance, revenue and accounting.

#### The Committees

There are Committees as follows:

- 1. The Board of Directors
- 2. The Executive Committee
- 3. The Audit Committee
- 4. The Risk Management Committee
- 5. The Remuneration Committee
- 6. The Corporate Governance and Corporate Social Responsibility Committee
- 7. The Legal Committee
- 8. The Independent Directors
- 9. The Labour Relations Committee

The composition of the Board at the end of fiscal year 2017 are as follows; (names and details of Directors and the changes during the year are in accordance with Section 2)

| 1. General Kanit         | Sapitaks                | Chairman      |
|--------------------------|-------------------------|---------------|
| 2. Mr. Prasit            | Suebchana               | Vice Chairman |
| 3. Air Chief Marshal Siv | vakiat Jayema           | Vice Chairman |
| 4. Mr. Krichthep         | Simlee                  | Director      |
| 5. Mr. Puttipong         | Prasarttong-Osoth       | Director      |
| 6. Flight Lieutenant We  | erasak Wiroonpetch      | Director      |
| 7. Mrs. Phongsaward      | Guyaroonsuith           | Director      |
| 8. Police General Dech   | narong Sutticharnbancha | Director      |
| 9. Police Major Genera   | l Surachate Hakparn     | Director      |
| 10. Colonel Peerawat     | Promkladpanao           | Director      |
| 11. Mrs. Sarinee         | Angsusingha             | President     |

#### The Board of Directors



General Kanit Sapitaks

Chairman



Mr. Prasit Suebchana Vice Chairman



Air Chief Marshal Siwakiat Jayema Vice Chairman



Mr. Krichthep Simlee Director



Mr. Puttipong Prasarttong-Osoth Director The Board of Directors



Flight Lieutenant Werasak Wiroonpetch Director



Mrs. Phongsaward Guyaroonsuith Director





Police General Dechnarong Sutticharnbancha Director

Police Major General Surachate Hakparn Director



Colonel Peerawat Promkladpanao Director



Mrs. Sarinee Angsusingha President

Company 's Management



MRS. SARINEE ANGSUSINGHA President

Executive Vice President Executive Vice President



MR. SOMNUK RONGTHONG

Executive Vice President







MR. SUTTIPONG KONGPOOL Expert. Executive Vice President Level



Vice President (Office of Internal Audit)



Vice President (Finance)

Vice President (Human Resources)





MR. CHUMNAN RUECHAI Vice President (Office of Safety and Standards)



MRS. SIRIKES NIEMLOY

Vice President

(Air Traffic Management)

(Provincial and Facilities Administration)







MISS TIPAPORN NIPPAKAKORN MISS WARAPORN SONGCHAROEN MR. TEEKAYU MURATHA MR. CHATRI SASIPAYUNGSAK MR.CHATREE KIMANUNTA

Vice President (Office of Policy and Strategy)

Vice President (Office of President) Expert,

Vice President Level

Expert, Vice President Level

Director attached to Office of The President, Vice President Level



(Office of Business Development)





MR.WARAVUT RAPHIPHAN

Vice President



#### Company's Senior Management

# 1. Mrs. Sarinee Angsusigha

Date of Birth: 5 June 1959

Age: 58

Present Position: President

Starting Work: 5 June 2014

Education:

- Bachelor of Arts, Kasetsart University

- Master of Business Administration, Kasetsart University

- National Defence College (Class of 55)

Additional Education Qualifications:

- Air War College (Class of 34)

- Administrative Justice Management Course for Senior Executive (Class 6), Administrative Justice Institute, Office of Administrative Court

- Anti-Corruption Strategic Management Course for Senior Executive (Class of 7), Sanya Dharmasakti Anti-Corruption Institute (SDI), Office of the National Anti-Corruption Commission (NACC)

- Ethical Leadership Program (ELP) (Class 1), Thai Institute of Directors Association

- Director Certification Program (DCP) (Class 219), Thai Institute of Directors Association Work Experience:

- 5 June 2014 present President, Aeronautical Radio of Thailand Ltd.
- Year 2011 5 June 2014 Executive Vice President
- Years 2010 2011 Expert, Executive Vice President Level
- Years 2007 2010 Senior Vice President (Planning) and

Executive Vice President (Policy)

#### 2. Mr. Somnuk Rongthong

Present Position:Executive Vice PresidentDate of Birth:7 July 1961

Age: 56

Starting Work: 15 May 1984

Education:

- Bachelor of Engineering, Kasetsart University

- National Defence College (Class of 56)

Additional Education Qualifications:

- Air War College (Class of 36 in 2002)

- Advance Management Program (AMP), Wharton, University of Pennsylvania (Year 2013)

Work Experience:

| - Years 2012 – present | Executive Vice President                          |
|------------------------|---|
| - Years 2010 - 2012    | Vice President (Air Traffic Services Engineering) |
| - Years 2007 - 2010    | Executive Vice President (Engineering)            |

#### 3. Mrs. Onurai Komain

| Present Position: | Executive Vice President |
|-------------------|--------------------------|
| Date of Birth:    | 1 December 1957          |
| Age:              | 59                       |
| Starting Work:    | 17 June 1985             |

Education:

- Bachelor of Accountancy, College of Commerce, University of The Thai Chamber Of Commerce
- Master of Accountancy (Banking and Finance), Chulalongkorn University Additional Education Qualifications:
- Advanced Certificate Course in Public Economics Management for Executives, (Class 4), Year 2005, King Projadhipok's Institute
- Executive Finance Management Program, (Class 4), Year 2013, Academy of Economy and Finance

Work Experience:

- Years 2015 Present Executive Vice President
- Years 2014 2015 Expert, Executive Vice President level
- Years 2007 2014 Vice President (Finance)

#### 4. Mr. Tinnagorn Choowong

| Present Position: | Executive Vice President |
|-------------------|--------------------------|
| Date of Birth:    | 19 September 1962        |
| Age:              | 55                       |
| Starting Work:    | 1 July 1986              |

Education:

- Diploma in Aviation Communication, Civil Aviation Training Center (Thailand)
- Bachelor of Political Science, Ramkhamhaeng University

Additional Education Qualifications:

- Air War College (Class of 47 in year 2013)
- Leadership Succession Program (LSP), IRDP (Class of 3 in year 2015) Work Experience:
- Years 2015 Present Executive Vice President
- Years 2012 2015 Vice President (Air Traffic Management)

#### 5. Mr. Suttipong Kongpool

| Expert, Executive Vice President level |
|--|
| 14 January 1966                        |
| 51                                     |
| 1 July 1990                            |
|  |

Education:

- Bachelor of Communication Arts, Bangkok University

Additional Education Qualifications:

- Air War College (Class of 46 in Year 2012)
- Leadership Succession Program (LSP), IRDP (Class of 2 in Year 2014)
- Advanced Executive Program (AEP), Northwestern University (Class of 2 in Year 2014)

Work Experience:

- Years 2015 Present Expert, Executive Vice President level
- Years 2014 2015 Vice President (Policy and Strategy)

#### Human Resource and Organization Development

At the end of the Fiscal Year 2017, the total number of staff employed by AEROTHAI was 3,074 distributed as follows:

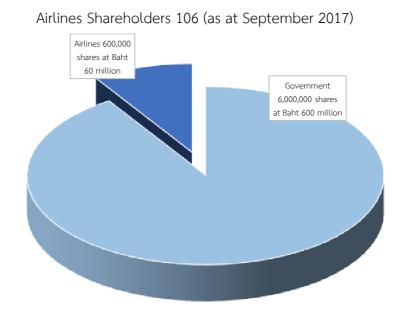
| Head Office                                       | 1,700 |
|---|-------|
| Suvarnabhumi Airport                              | 395   |
| Don Mueang International Airport                  | 175   |
| Phuket Air Traffic Control Centre                 | 160   |
| Hat Yai Air Traffic Control Centre                | 118   |
| Surat Thani Air Traffic Control Centre            | 85    |
| Hua Hin Air traffic Control Centre                | 45    |
| Chiang Mai Air Traffic Control Centre             | 138   |
| Phitsanulok Air Traffic Control Centre            | 101   |
| Udon Thani Air traffic Control Centre             | 77    |
| Ubon Ratchathani Air Traffic Control Centre       | 41    |
| Nakhon Ratchasima Air Traffic Service Engineering | 39    |

As of 30 September 2017, the total number of temporary employees employed by AEROTHAI was 33.

# Total Staff and Contracted Employees Expenditure

Unit: Million Baht

| Description                       | 2017     | 2016     | 2015     |
|-----------------------------------|----------|----------|----------|
| Staff's Expenditures and Benefits | 7,592.85 | 6,941.14 | 6,469.97 |
| Temporary Employees               | 10.26    | 9.89     | 10.14    |
| Expenditures                      |          |          |          |



# Share Capital and Shareholders Structure

In the fiscal year 2017, the A Shareholders and B Shareholders were as follows:

| The A Shareholders      | Number of shares |
|-------------------------|------------------|
| The Ministry of Finance | 6,000,000        |

The B Shareholders

|    |  | No. of shares |  |  |
|----|--|---------------|--|--|
| 1  | ASIANA AIRLINES                          | 1,905         |  |  |
| 2  | AEROFLOT RUSSIAN AIRLINES                | 1,270         |  |  |
| 3  | AIR FRANCE                               | 272           |  |  |
| 4  | AIR HONGKONG LTD.                        | 544           |  |  |
| 5  | AIR-INDIA                                | 1,270         |  |  |
| 6  | THAI AIRASIA CO.,LTD.                    | 104,249       |  |  |
| 7  | SRILANKAN AIRLINES LIMITED               | 1,905         |  |  |
| 8  | AIR MACAU CO.,LTD.                       | 1,179         |  |  |
| 9  | ALL NIPPON AIRWAYS CO.,LTD.              | 3,085         |  |  |
| 10 | AUSTRIAN AIRLINES AG                     | 635           |  |  |
| 11 | INDONESIA AIR ASIA                       | 2,268         |  |  |
| 12 | AIR ASIA SDN BHD                         | 11,523        |  |  |
| 13 | BRITISH AIRWAYS                          | 1,270         |  |  |
| 14 | BIMAN BANGLADESH AIRLINES                | 635           |  |  |
| 15 | BANGKOK AIRWAYS PUBLIC COMPANY LIMITED   | 61,561        |  |  |
| 16 | AEROLOGIC GMBH.                          | 635           |  |  |
| 17 | BHUTAN AIRLINES (TASHI AIR PVT. LIMITED) | 635           |  |  |
| 18 | CHINA AIRLINES                           | 3,085         |  |  |
| 19 | BEIJING CAPITAL AIRLINES                 | 181           |  |  |
| 20 | AIR CHINA LIMITED                        | 4,627         |  |  |
| 21 | SHANDONG AIRLINES                        | 2,268         |  |  |
| 22 | CEBU PACIFIC AIR                         | 635           |  |  |
| 23 | CHINA EASTHERN AIRLINES                  | 9,527         |  |  |
| 24 | HAINAN AIRLINES HOLDING COMPANY LIMITED  | 2,903         |  |  |
| 25 | CHINA CARGO AIRLINES                     | 544           |  |  |
| 26 | CARGOLUX AIRLINES INT'L S.A.             | 454           |  |  |
| 27 | CATHAY PACIFIC AIRWAYS                   | 6,079         |  |  |
| 28 | SPRING AIRLINES                          | 7,259         |  |  |

|    |                                | No. of shares |
|----|--------------------------------|---------------|
| 29 | HONG KONG AIRLINES LTD         | 3,357         |
| 30 | SICHUAN AIRLINES               | 2,268         |
| 31 | SHANGHAI AIRLINES              | 6,260         |
| 32 | CHINA SOUTHERN AIRLINES        | 11,160        |
| 33 | SHENZHEN AIRLINES              | 3,811         |
| 34 | JUNEYAO AIRLINES CO.,LTD       | 4,446         |
| 35 | LUFTHANSA GERMAN AIRLINES      | 635           |
| 36 | MALDIVIAN                      | 1,089         |
| 37 | DRUK AIR                       | 635           |
| 38 | EASTAR JET                     | 1,905         |
| 39 | ETIHAD AIRWAYS                 | 2,450         |
| 40 | ETHIOPIAN AIRLINES CORPORATION | 1,815         |
| 41 | EVA AIRWAYS CORP.              | 4,083         |
| 42 | FEDERAL EXPRESS CORP.          | 1,089         |
| 43 | FINNAIR OYJ                    | 635           |
| 44 | GULF AIR B.S.C. (C)            | 635           |
| 45 | GARUDA INDONESIAN AIRWAYS      | 1,905         |
| 46 | HONG KONG DRAGON AIRLINES LTD. | 1,905         |
| 47 | HONG KONG EXPRESS AIRWAYS LTD. | 1,452         |
| 48 | VIETNAM AIRLINES JSC           | 3,811         |
| 49 | INTERGLOBE AVIATION LTD.       | 1,270         |
| 50 | MAHAN AIR                      | 544           |
| 51 | JET AIRWAYS (INDIA) LIMITED    | 3,176         |
| 52 | JAPAN AIRLINES CO.,LTD.        | 3,176         |
| 53 | JEJU AIR                       | 1,905         |
| 54 | JIN AIR                        | 635           |
| 55 | JETSTAR ASIA AIRWAYS PTE LTD.  | 4,537         |
| 56 | JETSTAR AIRWAYS PTY LTD.       | 998           |
| 57 | KUWAIT AIRWAYS CORPORATION     | 635           |

|    |  | No. of shares |
|----|--|---------------|
| 58 | KOREAN AIRLINES CO.,LTD.                                 | 3,539         |
| 59 | KLM ROYAL DUTCH AIRLINES                                 | 635           |
| 60 | K-MILE AIR CO., LTD.                                     | 1,361         |
| 61 | KANNITHI AVIATION CO.,LTD.                               | 5,625         |
| 62 | KENYA AIRWAYS PLC  | 1,270         |
| 63 | AIR ASTANA JSC   | 635           |
| 64 | LAO AIRLINES   | 2,450         |
| 65 | YUNNAN LUCKY AIR CO.,LTD                                 | 1,361         |
| 66 | MALAYSIA AIRLINES BERHAD                                 | 6,351         |
| 67 | MYANMAR AIRWAYS INTERNATIONAL CO.,LTD.                   | 1,543         |
| 68 | EGYPT AIR  | 272           |
| 69 | MALINDO AIRWAYS SDN BHD                                  | 3,176         |
| 70 | NORWEGIAN AIR SHUTTLE ASA                                | 363           |
| 71 | NIPPON CARGO AIRLINES CO.,LTD.                           | 544           |
| 72 | NOKSCOOT AIRLINES CO.,LTD                                | 2,450         |
| 73 | NOK AIRLINES PUBLIC COMPANY LIMITED                      | 57,795        |
| 74 | ORIENT THAI AIRLINES                                     | 3,811         |
| 75 | OKAY AIRWAYS COMPANY LIMITED                             | 998           |
| 76 | OMAN AIR (SAOC)  | 1,270         |
| 77 | PHILIPPINE AIRLINES                                      | 1,633         |
| 78 | JETSTAR PACIFIC AIRLINES AVIATION JOINT STOCK<br>COMPANY | 1,270         |
| 79 | QANTAS AIRWAYS LTD.                                      | 817           |
| 80 | QATAR AIRWAYS COMPANY                                    | 3,811         |
| 81 | ROYAL BRUNEI AIRLINES                                    | 544           |
| 82 | AIR AUSTRAL  | 181           |
| 83 | REGENT AIRWAYS   | 363           |
| 84 | ALIA-THE ROYAL JORDANIAN AIRLINE CORPORATION             | 1,270         |

|     |  | No. of shares |
|-----|--|---------------|
| 85  | NEPAL AIRLINES CORPORATION                 | 272           |
| 86  | SIBERIA AIRLINES                           | 227           |
| 87  | SPICEJET                                   | 1,270         |
| 88  | SINGAPORE AIRLINES LTD.                    | 3,811         |
| 89  | SILKAIR(SINGAPORE) PRIVATE LTD             | 5,081         |
| 90  | SINGAPORE AIRLINES CARGO PTE. LTD.         | 272           |
| 91  | URAL AIRLINES                              | 544           |
| 92  | SWISS INTERNATIONAL AIR LINES LTD.         | 635           |
| 93  | THAI AIRASIA X CO.,LTD.                    | 3,811         |
| 94  | TIGER AIRWAYS SINGAPORE PTE.LTD.           | 6,170         |
| 95  | THAI AIRWAYS INTERNATIONAL PUBLIC CO.,LTD. | 64,328        |
| 96  | THAI SMILE AIRWAYS COMPANY LIMITED         | 31,121        |
| 97  | TURKISH AIRLINES INC.                      | 1,270         |
| 98  | THAI LION MENTARI CO.,LTD.                 | 47,951        |
| 99  | THAI VIETJET AIR JOINT STOCK CO.,LTD       | 5,444         |
| 100 | T' WAY AIR                                 | 635           |
| 101 | EMIRATES                                   | 5,716         |
| 102 | MYANMAR NATIONAL AIRLINES                  | 1,543         |
| 103 | UNITED PARCEL SERVICE CO., LTD.            | 454           |
| 104 | UZBEKISTAN AIRWAYS                         | 181           |
| 105 | SABAIDEE AIRWAYS CO.,LTD.                  | 6,760         |
| 106 | VIETJET AVIATION JOINT STOCK COMPANY       | 2,541         |
|     | Total B Shareholders                       | 600,000       |

Remark: Names of Shareholders allocated shares on 1 August 2017

#### State Enterprise's Loans

| Damla              | Credit    | Balance as at 30 September |          |          | Type of   |
|--------------------|-----------|----------------------------|----------|----------|-----------|
| Bank               | Limit     | 2017                       | 2016     | 2015     | Guarantee |
| Krung Thai         | 1,390.28  | -                          | -        | 462.28   | none      |
| Siam Commercial    | 1,519.55  | -                          | -        | 531.05   | none      |
| Krung Thai         | 1,100.00  | -                          | -        | 548.80   | none      |
| Government Savings | 1,650.00  | 697.95                     | 824.89   | 951.83   | none      |
| Government Savings | 1,200.00  | -                          | -        | 900.00   | none      |
| Government Savings | 3,480.00  | 1.00                       | 1.00     | 1.00     | none      |
| Krungsri           | 2,075.43  | 660.34                     | 2,075.43 | -        | none      |
| Total              | 12,415.26 | 1,359.29                   | 2,901.32 | 3,394.96 |           |

#### Major Plans and Projects

AEROTHAI has major plans and projects as contained in the Corporate Plan 2017-2021 as follows:

#### 1. Air Navigation Service Infrastructure Development Project

(Implementing Year 2012-2019 with an investment budget of Baht 4,460.31 million)

The Air Navigation Service Infrastructure Development Project was approved in principle by the Government on 3 May 2011 with an investment budget of Baht 4,460.31 million. The objective is to enhance the infrastructure for the air navigation service of Thailand in order to match new international standards and have the capacity to support the growing air traffic volume in the future. The project is in line with the concept and requirements of the global air traffic management system. The project can be broken down into 3 individual parts as follows:

(1) Establishment of Air Traffic Management Centre (ATMC)

To support the role of the air traffic management hub of Thailand and connect with neighboring countries. The system will enhance AEROTHAI's ability to provide air traffic control service on all airways across Thailand with a new concept of operation that is supplemented by new elements of airspace management and air traffic flow management in an efficient, automated, and environmentally friendly concept, while maintaining the highest level of safety as a priority.

(2) CNS System Enhancement and ATM Network Integration

To enhance nationwide communications, navigation, surveillance infrastructures as well as a network of information/data for air traffic management between the headquarters and provincial units across the Country within the same level of capability

Unit: Million Baht

and standards, thus ensuring the fullest extent of safety, efficiency, and capacity through the service to passengers and airlines/airspace operators.

(3) Procurement of High Performance Flight Inspection Aircraft:

To meet the demands of the flight inspection of air navigation service infrastructure both in terms of quantity and capability for the increasing flight inspection requirements. This includes the support for new technology of systems that AEROTHAI has planned to deploy in the future as well as other required functions to promptly and accessibly support AEROTHAI's operations. This project was completed where the high performance aircraft had been acquired in March 2016.

In 2016 AEROTHAI completed the installation as well as system integration and system continuity testing activities of the newly acquired air traffic management system in this project. In 2017 AEROTHAI trained air traffic controllers and engineers continuously throughout the year to prepare them for the new system. The current system and the new system have been primarily used for parallel trials for Bangkok Approach Control service at Suvarnabhumi Airport since 25<sup>th</sup> April 2017. Currently the update/review and a detailed plan outlining a time frame for the transfer of operations to the rest of the Country at other airports, including Bangkok Area Control Centre, are on schedule as planned.

#### 2. Establishment of ATM Network Management Center (ATM NMC)

(Implementing Year 2014-2019 with an investment budget of Baht 438.42 million)

AEROTHAI aims to improve air traffic flow efficiency as well as airspace capacity and utilization according to the concept of Flexible Use of Airspace (FUA) by managing and making use of relevant flight data from all concerned units to increase capacity and efficiency of airspace management. The establishment of the ATM Network Management Centre is planned for this very purpose. Airspace capacity optimization and an increased level of safety as well as reduced air traffic controllers' workload will be consequently achieved. In 2017 AEROTHAI reviewed and compiled the technical data for the procurement of system and equipment as well as improving the system. The system is expected to be procured and fully installed by 2019.

# 3. Acquisition and Installation of additional Controller Working Positions (CWPs) for air traffic control centers at Tung Mahamek and Suvarnabhumi International Airport expansion as well as an Independent Backup System (IBS)

(Implementing Year 2015-2018 with investment budget of Baht 116.17 million)

Air traffic controllers have experienced rapid increases in workloads and are currently working at full capacity as a result of recent traffic growth. AEROTHAI needs additional CWPs in order to cope with this increasing demand in the future as well as to alleviate controllers' fatigue issues arising from increased workloads.

In 2017 the CWPs were procured and fully installed and are currently under continuous testing. The Voice Communication Control System (VCCS) equipment for the headquarters has been fully installed and testing has been completed. The VCCS equipment for Suvarnabhumi International Airport will be delivered by 2018.

# 4. Construction of New Air Traffic Control Tower (to commemorate the 7<sup>th</sup> cycle Royal Birthday Anniversary of His Majesty King Bhumibol Adulyadej 5 December 2011) and Implementation of New Air Traffic Management System at Don Mueang International Airport

(Implementing Year 2011-2019 with investment budget of Baht 286.53 millions)

AEROTHAI has been providing air traffic services at Don Mueang International Airport by renting office space and an air traffic control tower from Airport of Thailand PLC (AOT). Later on AOT has started to change and improve the use of various buildings in Don Mueang International Airport, which led AEROTHAI to reevaluate our use of space at the airport. The conclusion was that the rented control tower building had limited space and could not accommodate the upgrade of the air traffic control systems/equipment in the near future.

Hence, AEROTHAI underwent the construction of a new air traffic control tower at the airport to replace the original tower, with the installation of the new and modern air traffic control systems/equipment in order to provide information for use in air traffic control, as well as provide situational awareness on aircraft and vehicles in the airport to increase the safety in airport surface operation and link information automatically and interoperate with both the air traffic control tower at Suvarnabhumi International Airport and Bangkok ACC. AEROTHAI will continue to use the existing tower together with a new one to improve visibility in air traffic control, and use as contingency unit in a distant location (Offsite Backup) in case of emergency. The construction of the tower was completed in February 2014, with Voice Communication Control System (VCCS) successfully procured and installed in 2015. In 2016, AEROTHAI has completed the installation as well as system integration of the new air traffic management system under the Air Navigation Service Infrastructure Development Project. In 2017, the tower along with the system has been under preparation for operating in accordance with the opening of the Air Navigation Service Infrastructure Development Project.

# 5. Acquisition of Multilateration (MLAT) Systems at Phuket and Chiang Mai Airports

(Implementing Year 2015 – 2020 with investment budget of Baht 112.86 million)

MLAT system utilizes new technology to provide surveillance data that includes aircraft and vehicle identification as well as highly accurate positioning. AEROTHAI has chosen to implement MLAT at high density regional airports in order to gain ground surveillance on runway, taxiways, and gate areas, as well as an ability to better detect runway incursions.

In 2017 a suitable MLAT coverage area was evaluated in accordance with airport development plans for these 2 airports. The drafting of details and technical specifications for procuring the equipment and the procurement process will be done in 2018 - 2020.

# 6. Acquisition of network equipment to support Multilateration (MLAT) Systems at Phuket and Chiang Mai Airports

(Implementing Year 2015-2019 with investment budget of Baht 42.20 million)

MLAT system implementation to provide ground surveillance as required for high density traffic movements at Phuket and Chiang Mai Airports. Such MLAT installation requires an appropriate communication network infrastructure in order to support an efficient air traffic service. The drafting of details and technical specification for procuring the equipment and procurement process will be completed in 2018-2020.

# 7. Acquisition of Doppler Very High Frequency Omni-directional Range/Distance Measuring Equipment (DVOR/DME) at Chumphon, Mae Sot, Buriram, and Krabi Airports and Construction of DVOR/DME Station Building at Mae Sot Airport

(Implementing Year 2015 - 2019 with investment budget of Baht 111.14 million)

DVOR/DME systems that have exceeded 15 years of usage often show signs of degraded performance and require additional emergency corrective maintenance. AEROTHAI therefore needs to acquire new DVOR/DME systems at these 4 airports in order to replace the existing aged systems. Construction of a new DVOR/DME Station Building as a replacement to the existing one was also required at Mae Sot Airport in accordance with the government's Mae Sot Airport master plan. In 2016, a construction contract for DVOR/DME Station Building at Mae Sot Airport was initiated and in June 2017 the building is completed. AEROTHAI is in the process of procuring the DVOR/DME system with an expected completion date of 2019.

# 8. Acquisition of Instrument Landing System/Distance Measuring Equipment (ILS/DME) at Don Mueang Airport for Runway 21L

(Implementing Years 2015-2018 with investment budget of Baht 27.98 million)

ILS/DME systems that have exceeded 15 years of usage are showing signs of degraded performance and requiring additional emergency corrective maintenance need replacement. AEROTHAI therefore needs to acquire new ILS/DME system at Don Mueang Airport in order to replace the existing aged system on Runway 21L. In 2017 the contract for procurement and installation was signed. The installation is in progress and will be ready for operation by 2018.

# 9. Supporting ATM Activities under ASEAN Single Aviation Market Establishment Plan and Seamless ASEAN Sky Concept

(Implementing Years 2016 - 2020)

As the work on ASEAN Single Aviation Market (ASAM) and Air Traffic Management (ATM) were prioritized as one of the top three technical works, AEROTHAI has continuously participated in ASEAN Air Transportation Working Group (ATWG) since 2009 as Thailand delegation's supporting representative, whom have played important roles in considering/proposing/executing in ATWG to support the work under the ASAM Roadmap. In 2016 AEROTHAI together with ASEAN Member States were in the progress of developing an ASEAN ATM Master Plan as part of the key activity under the ASEAN Transport Strategic Plan (ATSP) 2016 – 2025, and participated in other important activities under ASEAN Air Transport Integration Project (AATIP). Within ASEAN Air Transport Technical Cooperation Sub-Working Group (ATTC) Work Plan 2016-2017, Thailand was assigned an important role as a Lead Country for some work items, comparable to other leading ASEAN countries like Singapore.

#### Important Investment Project for the Next 3 Years

#### (1) Construction of a new office building (AEROTHAI Complex) at Headquarters

(Implementing Years 2014 - 2023 with investment budget of Baht 1,097.41 million)

A new office building at Headquarters is needed to provide additional working space for future growth and to be used as a substitute working space for employees who have to move out of their current temporary working space in the 60<sup>th</sup>Anniversary Year building when the new Air Traffic Management Center (ATMC) is operational as well as to provide enough space to support appropriate and efficient zoning arrangement of various departments for both normal and emergency situations. It will also offer suitable setting for AEROTHAI to become one of the leading aviation entities to collaborate with main aviation organizations in Thailand and enhance aviation activities on national and regional levels under AEC.

In 2017 AEROTHAI reviewed space requirements in accordance with the current environmental needs and when complete the process of acquiring a consultancy service for design and production of construction plans for the AEROTHAI Complex building.

# (2) Acquisition of Doppler Very High Frequency Omni-directional Range/Distance Measuring Equipment (DVOR/DME) at Lampang, Narathiwat, Petchaboon, Roi Et, Nakhon Si Thammarat, and SuratThani Airport

(Implementing Year 2017-2018 with investment budget of Baht 147.47 million)

DVOR/DME systems that have exceeded 15 years of usage are showing signs of degraded performance and requiring additional emergency corrective maintenance and need replacement. The Company therefore needs to acquire new DVOR/DME system at Lampang, Narathiwat, Petchaboon, Roi Et, Nakhon Si Thammarat, and Surat Thani Airports in order to replace the existing aged systems. In 2017, the procurement process began. However, there was no candidate who met the technical criteria. The Company has been working on revising the scope of work for procurement. The project is expected to be completed by 2019.

#### Information Technology Development

The Company is well aware of the use of information and communication technology to support the Company's performance. It is one of the Company's strategies to become a high performance organization (HPO) that operates with effective information infrastructure and technology and the integration of a work system which can help reduce the duplication of data and increase work performance. The development in 2017 includes:

- 1. Develop/improve information technology and communication infrastructure.
  - Provide additional WLAN coverage at the office space.
  - Secure information technology system from viruses, computers, spam emails and other forms of attacks.
  - Develop/update computers and peripherals including scheduled maintenance to work safely and reliably.
  - Develop an Identity Management System for access rights for various systems according to the information security policy and guidelines.

#### 2. Increase the Company's potential with Information Systems

 Develop information systems to support Organization Management for excellence. The information Business Intelligence (BI) system is used to maximize decision support for senior executives.

- Develop a Human Resource Information System to enhance the efficiency of human resources management.
- Develop a risk management and internal control system for integration of procedures and reports.
- Develop a project management system for the monitoring of project management projects.
- Develop air traffic management information system. Incident Log management is developed to reduce data redundancy and to improve the efficiency of air traffic management with statistics on Incident Log as a management tool.
- Develop regional support information systems and operations centers to provide executives with buildings and infrastructure management and investment planning as well as the maintenance of buildings, facilities and equipment.
- Develop information management system. Application development / improvement is a tool for improving the application development process, including software quality improvement through the Continuous Integration Process (CIP)
- Establish policies and guidelines for maintaining information security.

# 3. Develop electronic services for support the Company's stakeholders with the integration of information and communication technology.

- Develop and improve the information system for all stakeholders.
- Publish and disseminate information through various electronic media including G-News following the Government's policies.
- Develop a website to disseminate information to the public and also use the website to acquire comments, suggestions and complaints in order to improve services.

# 4. Develop and support staff to have knowledge and skills in information and communications technology.

- Promote personnel development courses by focusing on knowledge of using information and communications technology so that they can operate efficiently and secure.
- Raise awareness of the use of Information Security Practices, including threats that may cause damage to the Company.

#### Important Role in the Global, Regional Forum and Others

- 1. Aviation Consultative Committee (ACC) Thailand Malaysia Special Air Traffic Services Coordination Procedure (ATSCP) Coordination Meeting
- 2. Distributed Multi-Nodal CDM/ATFM Operational Trial Project Meeting
- 3. Collaborative Miles-in-Trail Conversion Program (CMCP)
- 4. Thailand-Cambodia Executive Meeting
- 5. Reduced Vertical Separation Minimum Seminar (RVSM Seminar)
- 6. Consultation Cooperation Meeting among the 3 CEOs of the Aviation Organizations of Thailand - AEROTHAI, Thai Airways International Public Company Limited and Airports of Thailand Public Company Limited.
- 7. Airspace Users ANSP Meeting
- 8. The Signing of Memorandum of Understanding

# 1. Aviation Consultative Committee (ACC) Thailand - Malaysia Special Air Traffic Services Coordination Procedure (ATSCP) Coordination Meeting

The Company hosted the ACC Thailand - Malaysia Special Air Traffic Services Coordination Procedure (ATSCP) Coordination Meeting during 24<sup>th</sup> -25<sup>th</sup> November 2016 at The Kantary Hills, Chiang Mai Province. The Company and the Department of Civil Aviation Malaysia (DCA Malaysia) established an ACC as a standing committee which meets twice a year or on special occasions. This floor serves to ensure mutual understanding and cooperation on Air Traffic Management (ATM) between the two neighboring countries. Pursuing Regional Seamless ATM, states/administrations in the region should be aware of all changes and developments, as well as cooperate with their neighbors to ensure smooth flow of traffic. This meeting paves the way for the Seamless ATM collaboration between Malaysia and Thailand.

#### Progress/Achievements

This floor serves to ensure mutual understanding and cooperation between Malaysia and Thailand and to exchange comments and suggestions for the related responsibilities, update the status of major Seamless ATM activities being planned, Uni-Directional Routes, Operational Procedures, ATS Inter-Facility Data Communication (AIDC), Surveillance and Data Sharing, implemented as a continuous effort to improve ATM between the two FIRs.

#### 2. Distributed Multi-Nodal CDM/ATFM Operational Trial Project Meeting

The Company and Civil Aviation Authority Singapore (CAAS) will continue to progress as agreed and to host a series of meetings on the Distributed Multi-Nodal ATFM Operational Trial. In 2017, the Company hosted the meetings as follows:

- The 4<sup>th</sup> Meeting during 26<sup>th</sup>-27<sup>th</sup>March 2015 at AETAS Lumpini Bangkok

- The 6<sup>th</sup> Meeting during 18<sup>th</sup> 19<sup>th</sup> June 2015 at AETAS Lumpini Bangkok
- The 7<sup>th</sup> Meeting during 5<sup>th</sup> 16<sup>th</sup> September 2015 at Amara Hotel & Resort
- The 9<sup>th</sup> Meeting during 22<sup>nd</sup> 25<sup>th</sup> February 2016 at Pullman Bangkok Hotel G
- The 11<sup>th</sup> Meeting during 29<sup>th</sup> August 1<sup>st</sup> September 2016 at Banyan Tree
- The 12<sup>th</sup> Meeting during 20<sup>th</sup> 24<sup>th</sup> March 2017 at Pullman Bangkok Hotel G

The ATFM Platform in the Distributed Multi-Nodal ATFM Project was developed in the APAC region led by Thailand, Singapore, Hong Kong and China. Now the participation is expanding to other countries in the Southeast Asia region that are targeted to become Level-3 Participants that will be able to send and receive CTOT efficiently.

#### Progress/Achievements

Further to the previous meetings, the meeting designed Operational Use Case and Scenarios for system connectivity by the Technical Sub-Group reviewed the ATFM operations in support of activities, reviewed the development of Level-2 and Level-3 participants and developed a Post-Operations Analysis Framework to present to ICAO and other international stages.

#### 3. Collaborative Miles-in-Trail Conversion Program (CMCP)

AEROTHAI and the Civil Aviation Administration of China, Air Traffic Management Bureau (CAAC ATMB) have implemented Collaborative Miles-in-Trail Conversion Program (CMCP) and held the 4<sup>th</sup> meeting during 21<sup>st</sup> - 22<sup>nd</sup> February 2017 at the Pullman Bangkok Hotel G. The program was developed in order to resolve a major delay that occurred on A1, A202 by China Flow Restriction. The target is to convert Miles-in-Trail or Minutes-in-Trail into Calculated Take Off Time (CTOT) which is the more efficient and acceptable ATFM Measure for the benefit of airlines and Air Traffic Flow in the Region.

#### Progress/Achievements

Both parties agreed to head toward Pre-Tactical ATFM instead of Flow Restriction in Miles-in-Trail or Minutes-in-Trail measure. The team also developed a work plan for Operational Trial. In addition, the team discussed the importance of getting Vietnam Air Traffic Management (VATM) to participate.

#### 4. Thailand-Cambodia Executive Meeting

AEROTHAI hosted the Thailand-Cambodia Executive Meeting in Bangkok, Thailand on 11<sup>th</sup> July 2017 at Sukhothai Hotel. This high-level forum was convened to discuss and collaborate on Air traffic management (ATM) between AEROTHAI, State Secretariat of Civil Aviation (SSCA) and the Cambodian Air Traffic Services Company Limited (CATS). The main purpose of the meeting is to enhance the cooperation as a strategic partner amongst the Mekong sub-region in order to develop ATM/ATFM efficiency, harmonization and airspace capacity. In addition, this cooperation will fully support the objective of the ASEAN Single Aviation Market (ASAM) and the Seamless Sky's vision to deliver harmonized, interoperable and safe ATM operations in contiguous airspace within the Mekong sub-region.

#### Progress/Achievements

The meeting agreed to support and enhance collaboration with Cambodia including the other Mekong countries on Airspace Management, Air Traffic Flow Management and Information management and exchange in order to increase efficiency and mutual standard in Air Traffic Management (ATM) and build the collaborative framework to ensure an appropriate balance between air traffic demand and the airspace capacity in the Mekong sub-region.

#### 5. Reduced Vertical Separation Minimum Seminar (RVSM Seminar)

AEROTHAI, as being the Regional Monitoring Agency for Asia Region (MAAR), hosted the Reduced Vertical Separation Minimum Seminar (RVSM Seminar) from 6th – 7<sup>th</sup> June 2017 at the ICAO Regional Office Bangkok, Thailand. The RVSM Seminar is aimed to enforce the understanding of RVSM operational issues related to Stakeholders, mainly State regulators and aircraft operators, including their roles and responsibilities with experts from EUROCONTROL and the Asia/Pacific Region.

#### Progress/Achievements

The Seminars were one of the methods used to assist ICAO in the continuation of the safety assessment program for the implementation of Reduced Vertical Separation Minimum (RVSM) and other monitoring requirements as determined by the APANPIRG. The Event finished successfully with 60 participants from State Civil Aviation Authority (CAA), airlines and Regional Monitoring Agencies (RMAs). A lot of mutually beneficial information was shared during the seminar.

# 6. Consultation Cooperation Meeting among the 3 CEOs of the Aviation Organizations of Thailand - AEROTHAI, Thai Airways International Public Company Limited and Airports of Thailand Public Company Limited.

Thai Airways International Public Company Limited and the Airports of Thailand Public Company Limited and AEROTHAI alternately host the meetings quarterly. The meeting is attended by the participants from the Top Management and Senior Executives of the three agencies. The purpose of the meeting is to discuss the interoperability of the National Aviation Agencies to consider the integrated Aviation Work plans through open discussions in order to establish and to strengthen a strategic partnership as well as to develop a Strategic and Operational Standing Agenda. The objective of the meetings is also to enhance operational efficiency towards the key challenges facing the world of air traffic management concerning the capacity to handle the increasing air traffic volume and to support the growth of the aviation industry in the region. In addition this consultation to prepare for the Universal Security Audit Programme / Continuous Monitoring Approach (USAP-CMA) of ICAO was also discussed in this meeting.

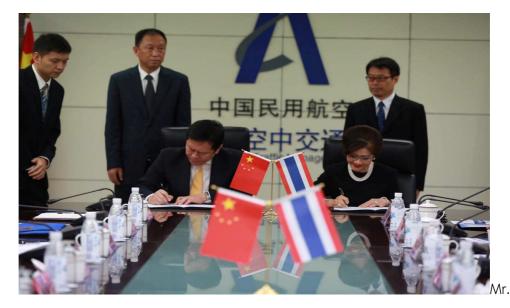
#### 7. Airspace Users – ANSP Meeting

AEROTHAI hold Airspace Users ANSP Meetings twice every year during March and September to communicate corporately to Thai commercial airspace users regarding current services, future plans and progress of projects which are implemented to provide better air traffic services. In addition, it is a channel for reviewing the customer satisfaction survey results and for airspace users and air traffic controllers to develop relationships and express their opinions and recommendations which will be recorded as action items for further improvements of AEROTHAI's services.

# 8 The Signing of Memorandum of Cooperation (MOC) between South-West Air Traffic Management Bureau (SW ATMB) of Civil Aviation Administration of China (CAAC) and AEROTHAI

The objective of this MOC was to refurbish and enhance the cooperation between SW ATMB CAAC and AEROTHAI. The areas of cooperation indicated in this MOC are as follows:

- Research, validation and utilization of new technologies, methods and theories regarding Air Traffic Management Operations, CNS Technologies and innovation.
- Exchange of information on Quality Management, Risk Management
- Emergency Responses Management.
- Cooperation on the improvement of General Aviation operations.
- Official visit, consultancy and training of management and staff.
- Exchange best practice on corporate structure, formulation of Organizational strategy, and Human Resource Management and Development.
- Support of Seamless Air Traffic Management.
- Localization and implementation of standards and recommended practices (SARPs) of ICAO in Asia and Pacific Region.
- Cooperation on providing technical and leadership training and consulting services to other countries.



Zhang Yong, Director General of SW ATMB CAAC and Mrs. Sarinee Angsusingha, President of AEROTHAI signed MOC on 4<sup>th</sup> September 2017 at the SW ATMB Headquarters, Chendu, China.

#### Company Operating Performance

#### Air Navigation Services

## Air Traffic Control Service within Bangkok FIR

During the Fiscal Year 2017, a total of 950,661 flights were serviced within the Bangkok FIR, which was 41,595 flights or 4.58 percent increase from the previous year.

| Type of Operations           | Fiscal Year Traffic Volume |                | Traffic Volume Change        |                              |
|------------------------------|----------------------------|----------------|------------------------------|------------------------------|
|                              | 2016 2017                  |                | Increase (+)<br>Decrease (-) | Increase (+)<br>Decrease (-) |
| Civil : International Flight | 521,611                    | 534,999        | 13,388                       | 2.57                         |
| - Scheduled                  | 410,076                    | 419,072        | 8,996                        | 2.19                         |
| - Non - Scheduled            | 15,924                     | 16,013         | 89                           | 0.56                         |
| - Overfly                    | 95,611                     | 99,914         | 4,303                        | 4.50                         |
| Civil : Domestic Flight      | 374,482                    | 403,211        | 28,729                       | 7.69                         |
| <u>Total Civil Flight</u>    | <u>896,093</u>             | <u>938,210</u> | 42,117                       | 4.70                         |
| Military Flight              | 12,973                     | 12,451         | -522                         | -4.02                        |
| <u>Grand Total Flight</u>    | <u>909,066</u>             | <u>950,661</u> | 41,595                       | 4.58                         |

#### Traffic Volume within Bangkok FIR

# Air Traffic Volume at Suvarnabhumi Airport and Don Mueang Airport

1. Air traffic volume that departed and landed at Suvarnabhumi Airport and Don Mueang Airport in the fiscal year 2017.

| Fiscal Year 2017                    |                        |                      |                 |  |
|-------------------------------------|------------------------|----------------------|-----------------|--|
| Air traffic volume                  | Airport                |                      | Total           |  |
|                                     | Suvarnabhumi<br>(VTBS) | Don Mueang<br>(VTBD) |                 |  |
| Flight Type                         |                        |                      |                 |  |
| International                       | 255,433                | 83,796               | 339,229         |  |
| Domestic                            | 90,527                 | 186,741              | 277,268         |  |
| Flight Rule                         |                        |                      |                 |  |
| IFR                                 | 345,884                | 258,198              | 604,081         |  |
| <b>Overfly VFR</b><br>(include Y,Z) | 76                     | 12,340               | 12,416          |  |
| Total Flight                        | 345,960                | 270,537              | <b>6</b> 16,497 |  |

2. Comparison of air traffic volume at Suvarnabhumi Airport and Don Mueang Airport between the fiscal year 2016 and 2017.

| Air traffic volume                  | Airport                |                      | Total   |
|-------------------------------------|------------------------|----------------------|---------|
|                                     | Suvarnabhumi<br>(VTBS) | Don Mueang<br>(VTBD) |         |
| Total Flight<br>in fiscal year 2016 | 333,563                | 259,415              | 592,978 |
| Total Flight<br>in fiscal year 2017 | 345,960                | 270,537              | 616,497 |

Volume of flights in fiscal year 2017 increased from the fiscal year 2016 by 3.96 %.

| Flight Movement/Airports                                   | Suvarnabhumi | Don<br>Mueang | Pluket  | Chiang<br>Mai |
|--|--------------|---------------|---------|---------------|
| Flight Type  |              |               |         |               |
| International  | 255,433      | 83,796        | 50,824  | 17,504        |
| Domestic   | 90,527       | 186,741       | 55,174  | 58,556        |
| Type of Operation  |              |               |         |               |
| S : Schedule   | 338,709      | 242,764       | 100,016 | 71,097        |
| N : Non-Schedule   | 4,453        | 3,153         | 3,795   | 529           |
| G : General  | 2,751        | 7,746         | 1,041   | 427           |
| M : Military   | 31           | 16,462        | 1,045   | 2,320         |
| X : Others   | 16           | 412           | 101     | 1,687         |
| Flight Rule  |              |               |         |               |
| IFR  | 345,884      | 258,197       | 105,301 | 71,665        |
| VFR (included Y,Z)   | 76           | 12,340        | 697     | 4,395         |
| Fiscal year 2017   | 345,960      | 270,537       | 105,998 | 76,060        |
| average daily  | 945          | 739           | 290     | 208           |
| Percentage change in the number of flights per day         |              |               |         |               |
| (Year 2017/Year 2016<br>The same period of<br>fiscal year) | 3%           | 4%            | 10%     | 7%            |

# Flights volume at the airports (The 4 top airports with the highest number of flights)

# Preparation for Transition/Cutover Project Bangkok Area Control Centre Sectorization Upgrade (BASU)

Consistent with the growth in the aviation business, air traffic volume has been increasing. Our concern is how to support this heavier traffic effectively by expanding a responsible team and ensuring the standards of professional service and compliance with ICAO rules and regulations. Limitations with operational systems restrict our ability to meet traffic demands, as the systems often freeze when overloaded.

However, increasing the workload for individual air traffic controllers also increases the risk of incident or accident due to the number of flights a controller is responsible for. It is urgent that the Company improves the system reliability and increase the number of controllers so they are better able to use the new system before the Thailand Modernization CNS/ATM System (TMCS) is launched.

For Bangkok Area Control Centre (Bangkok ACC), the Company have prepared for the cutover to the new system (The Bangkok Area Control Centre Sectorization Upgrade"BASU") by increasing the available equipment to support 8 positions and 4 more sectors. These include sector 3, sector 5/1, sector 7/1, and the overfly sector. We are also upgrading flight data processing so our Air Traffic Control will reach the required safety and efficiency standard.

#### Deployment of the Continuous Descent Operation (CDO)

Global Warming has become an issue and In 2017 Bangkok ACC has been coordinating with Provincial Approach Control Centre and other relevant departments on developing Continuous Descent Operations Project for arriving flights at Phuket, Krabi, Phitsanulok and Chiang Rai Airports. Lower flights levels before landing will make control easier, with earlier planning and improvments in safety. Flight Predictability also helps to decrease environmental problems by less gasoline usage, Noise Abatement, less CO pollution, therefore less communication is needed between all operating staff.

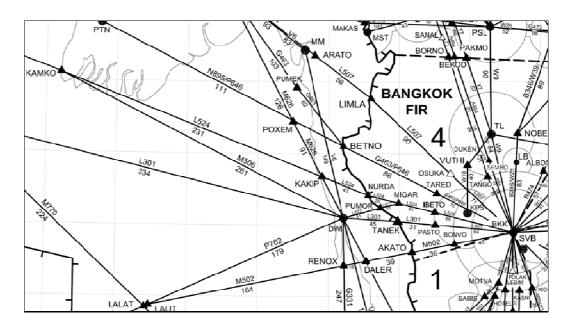
Bangkok ACC and Provincial Approach Control Centre conducted demonstration flights under operational control with CDO at Phuket, Krabi, Phitsanulok and Chiang Rai Airports on 18<sup>th</sup> April – 17<sup>th</sup> May 2017. In this operation the Company was coordinated by:

- Thai Airways International Public Company Limited.
- Bangkok Airways Public Company Limited.
- Nok Air Public Company Limited.
- Thai Air Asia Public Company Limited.
- Thai Smile Airways Company Limited.
- Thai Lion Air Public Company Limited.

All pilots who participated in this trial agreed that this operation can help reduce time of approach landing, reduce communications between pilots and controllers, improve time landing accuracy and save fuel, hence reduce pollution.

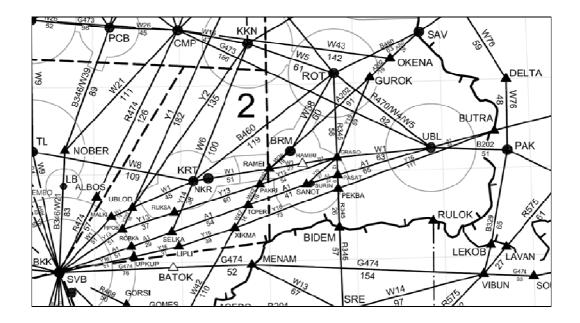
## Air Traffic Management Route Structure Enhancement

The Company has Implemented new routes; L524 and L877 on 2<sup>nd</sup> February 2017 which enhance air traffic management in Uni - directional between Bangkok ACC and Yangon ACC for aircrafts departure and arrival at Don Mueang Airport and Suvarnabhumi Airport on the route L877, L301 and M502 which can provide 50 NM longitudinal separation to ensure safety and increase air traffic flow management efficiency and also reduce the workload and stress of air traffic controllers.



Picture 1 - Route Structure Enhancement Project over the Bay of Bengal.

In addition, the Company has provided air traffic separation in Uni-directional by managing inbound flights to Don Mueang Airport and Suvarnabhumi Airport on each route. Providing outbound International flights to implement on routes A202 and A1 in order to prepare for more capacity, flow airspace and ensurance of safety. This improvement plan is additionally managed by providing separation during periods of military air exercises.



Picture 2 - Parallel Routes of Y13, Y14, Y15 and Y16

#### Air Traffic Flow Management Service (ATFM Service)

Bangkok Air Traffic Flow Management Unit (Bangkok ATFMU) provides Air Traffic Flow Management (ATFM) services on behalf of Air Navigation Service Providers (ANSPs) involved for all fights planning to enter the Afghanistani airspace westbound during the busy night time period from South/Southeast Asia to Europe or from South Asia to North America.

ATFM service is provided using the Bay of Bengal Cooperative ATFM System (BOBCAT), which was developed internally by AEROTHAI under auspices of ICAO ATFM Steering Group.

#### Application of Cross-Border ATFM Process in Thailand

During the Phase 1 Operational Trial, AEROTHAI applied the cross-border ATFM concepts and procedures to address several demand-capacity imbalance situations including military air operations on Children's Day (January 2017), joint military exercises Cobra Gold (March 2017), Cope Tiger (February 2017) and Thai Boomerang (September 2017) as well as supporting major runway maintenance at Bangkok Suvarnabhumi Airport (March – May 2017). The operations provided significant reduction in airborne holdings and greatly enhanced safety and efficiency in air traffic operations.

In addition, AEROTHAI has been providing ATFM service supporting air traffic flow restriction from other countries at Flight Information Regional Boundary (FIR Boundary) as needed. The operation, in combination with ATFM service supporting joint military exercises, initiated Phase 2 of Distributed Multi-Nodal ATFM Network project in applying ATFM service to support airspace constraint situation.

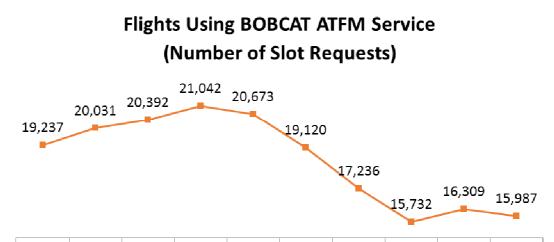
# ATFM Service for Westbound Nighttime flights through Afghanistan Airspace using Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT)

The Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT) was developed to streamline Air Traffic Flow Management operations for flights intending to transit the Afghanistan's airspace westbound during the busy night time period. This is due to Afghanistan being the key gateway for flights from South and Southeast Asia operating to Europe and flights from South Asia operating to North America. AEROTHAI has managed operations of the BOBCAT system through the Bangkok Air Traffic Flow Management Unit (Bangkok ATFMU) since 2007.

Based on increasing traffic and data supplied by airlines through the International Air Transport Association (IATA) it is estimated that since operational implementation of the ATFM procedure using the BOBCAT system to the end of Fiscal Year 2016, the airlines would have saved about 130 million kilograms of aviation fuel, which would translate into a reduction of greenhouse gases in contribution to the global environment of about 530 million kilograms. This, in turn, assisted in a cumulative airline cost savings of approximately 130 million US Dollars.

In addition, it is estimated that during the Fiscal Year 2016, the BOBCAT ATFM operations have contributed to approximately 11 million kilograms of fuel savings, equivalent of approximately 47 million kilograms of Carbon Dioxide emissions and approximately 11 million US Dollar of airline cost savings.

Throughout the Fiscal Year 2017 Afghanistan Civil Aviation Authority (ACAA) communicated to airlines the intention to implement surveillance in Afghanistan airspace in combination with increases in air navigation charges. However, up to date, communication with Kabul Area Control Center indicates no planned date to implement ATS surveillance services. Meanwhile, airlines reported that increases in air navigation charges for flights operating through Afghanistan airspace have become effective. This situation may correlate with a 2 percent reduction in average traffic westbound through Afghanistan airspace during BOBCAT operational hours. In addition, traffic growth between Europe and Thailand has been relatively slow (less than 1 percent growth per annum).



#### FY 2008 FY 2009 FY 2010 FY 2011 FY 2012 FY 2013 FY 2014 FY 2015 FY 2016 FY 2017

|                             | Year 2013 | Year 2014 | Year 2015 | Year 2016 | Year 2017 |
|-----------------------------|-----------|-----------|-----------|-----------|-----------|
| Average Nightly<br>Movement | 52        | 47        | 43        | 45        | 45        |
| Peak Nightly Movement       | 66        | 60        | 55        | 59        | 55        |

#### Design to Flight operations and Airspace

Implementation progress of conventional and PBN procedures is as follows: **For terminal airspaces**, the design for Instrument Flight Procedure for 10 airports was completed (Suvarnabhumi, Don Mueang, Chiang Mai, U-Tapao, Phitsanulok, Loei, Sakon Nakhon, Nakhon Phanom, Pattani, and Trat)

For en-route airspace, apart from revising existing routes, the additional unidirectional-RNAV5 routes (L524, L877 and Y13-Y17) were designed using the PBN and flexible use of airspace (FUA) concepts with the aim to increase airspace efficiency as well as to serve two main traffic flows, namely Eastbound and Westbound.

Sector Capacity Assessment: Through cooperation between AEROTHAI and EUROCONTROL regarding the ASEAN Air Transport Integration Project (AATIP), the sector capacity assessment study, based on EUROCONTROL methodology (CAPAN), was conducted. This study was performed by the CAPAN simulation team of EUROCONTROL and AEROTHAI supported by a team of operational controllers from Bangkok Area Control Centre (ACC). The objective of this study was to evaluate the sector capacities of Bangkok ACC en-route sectors for different scenarios. The work started in the fiscal year 2016 and the Bangkok ACC Simulation Report was launched in February 2017.

#### Aeronautical Communication Services

1 . AEROTHAI provides aeronautical fixed services with automatic message switching capability for the exchange of messages among domestic and international aeronautical communication centres. The service is available 24 hours a day 7 days a week.

Bangkok Aeronautical Communication Centre is the main Aeronautical Communication Centre in Asia/Pacific Region for receiving, transmitting, and distributing aeronautical messages to all parties involved in Aeronautical Fixed Telecommunication Network (AFTN) and/or Aeronautical Telecommunication Network (ATN) followed ICAO ANNEX 10 Volume II

2. The international circuits are directly connected through submarine cables, satellite and internet (through VPN service). Presently, AEROTHAI operates with direct circuit connections with 12 international aeronautical communication centres as follows:

|     | Circuit              | Network         | signaling speed |
|-----|----------------------|-----------------|-----------------|
| 1.  | Bangkok/Singapore    | Submarine cable | 64 Kbps         |
| 2.  | Bangkok/Hong Kong    | Submarine cable | 64 Kbps         |
| 3.  | Bangkok/Mumbai       | Submarine cable | 64 Kbps         |
| 4.  | Bangkok/Rome         | Submarine cable | 64 Kbps         |
| 5.  | Bangkok/Beijing      | Satellite       | 64 Kbps         |
| 6.  | Bangkok/Kuala Lumpur | Satellite       | 32 Kbps         |
| 7.  | Bangkok/Phnom Penh   | Satellite       | 64 Kbps         |
| 8.  | Bangkok/Yangon       | Satellite       | 64 Kbps         |
| 9.  | Bangkok/Ho Chi Minh  | Satellite       | 19.2 Kbps       |
| 10. | Bangkok/Dhaka        | Satellite       | 32 Kbps         |
| 11. | Bangkok/Vientiane    | Satellite       | 32 Kbps         |
| 12. | Bangkok/Bhutan       | Internet VPN    | -               |

3. In the 2017 Fiscal Year, 244,869,813 AFTN/ATN messages were handled by Bangkok Aeronautical Communication Centre. A total increase of 29,640,122 messages or 12.10 % in comparison to the last Fiscal Year.

#### Aeronautical Information Services

AEROTHAI is responsible for the flow of information necessary for safety, regularity and the efficiency of international air navigation to entities involved in that information. This responsibility includes providing Aeronautical Information Publication (AIP), AIP Supplement, Aeronautical Information Circular (AIC) and Notices to Airmen (NOTAM), En-route Charts, and Aeronautical Information Regulation and Control

(AIRAC) as well as other related aeronautical information to aircraft flying on domestic and international routes.

1. Notice to Airmen (NOTAM)

1.1 NOTAMs are issued by AEROTHAI and are distributed through AFTN and/or ATN network. NOTAM database provides NOTAM information through automatic request and reply service.

1.2 During the Fiscal Year 2017 AEROTHAI processed the total of 24,460 NOTAMs which equals to an increase of 3,220 NOTAMs or 15.16 % in comparison to the last Fiscal Year.

2. Flight Plan and Air Traffic Service Messages

2.1 AEROTHAI main responsibility includes flight plan management according to ICAO Doc.4444

2.2 During the Fiscal Year 2017 AEROTHAI processed the total of 7,545,066 flight plan messages which equals to an increase of 2,127,497 messages or 28.20 % in comparison to the last Fiscal Year

3. Operational Meteorological (OPMET) Data Services

AEROTHAI is a designated Operational Meteorological Bulletin Exchange (ROBEX) Center as well as Regional OPMETs Databank (RODB).

#### **Business Related Service**

The Business Unit was assigned by AEROTHAI to perform commercial business activities related to AEROTHAI's mission of providing air navigation service. The objectives of the Business Unit are to promote and support AEROTHAI's core mission to be strategic arms of AEROTHAI as national air traffic service provider and extend cooperation with aviation organizations in neighboring countries and in this region in order to expand air traffic management capabilities. In Addition, the Business Unit generates additional revenue from utilizing AEROTHAI's existing resources to compensate cost associated from external crisis as well as manage resources more effectively in order to reach our objectives in terms of revenues and customer satisfaction.

In the Fiscal Year 2017 AEROTHAI provided services in many projects in the fields of production, provision, installation, maintenance, survey, inspection, calibration and training for domestic and oversea organizations as follows:

#### 1. Production, Provision and Corrective Maintenance Service

Fifteen significant projects performed by AEROTHAI, were as follows:

- Improving of MUX via Satellite Network for VHF/UHF Air to Ground for Naval Electronics Department, Royal Thai Navy

- Maintenance of Doppler Very High Frequency Omni Directional Range/ Distance Measuring Equipment (DVOR/DME) for Royal Thai Naval Air Division, Royal Thai Navy
- Maintenance of Instrumental Landing System/ Distance Measuring Equipment (ILS/DME) for the Royal Thai Naval Air Division, Royal Thai Navy
- Maintenance of Automatic Message Switching System (AMSS) for Royal Thai Air Force
- Maintenance of Distance Measuring Equipment (DME) for CELL FLOW Co. Ltd.
- Maintenance of 62 sets of Thai Voting Machine version 4 for the Office of the Election Commission of Thailand
- Provision, Installation and Transition from Automatic Message Switching System (AMSS) to ATS Message Handling System (AMHS) for Department of Air Transport, Bhutan
- Provision of the Receiver Autonomous Integrity Monitoring (RAIM) Prediction Service for Vietnam Air Traffic Management, Vietnam
- Provision of the Receiver Autonomous Integrity Monitoring (RAIM) Prediction Service for Partner Associates International Co., Ltd. (PAI), Myanmar
- Provision of VHF Radio Communication System for Partner Associates International Co., Ltd. (PAI), Myanmar
- Provision of VSAT transponder frequency re-tuning operated within the Thaicom 5 for Thaicom Public Co., Ltd.
- Maintenance of Radio Communication System for PTT Public Co., Ltd.
- Maintenance of Radio Communication System located along the natural gas pipeline in Myanmar for PTT Public Co., Ltd.
- Maintenance of Radio Communication System located along the Nakornsawan natural gas pipeline for PTT Public Co., Ltd.

#### 2. Flight Inspection Service

AEROTHAI provides flight inspection and validation services for various Navigational Aids: Differential Navigation Aids, Doppler Very High Frequency Omni Directional Range/ Distance Measuring Equipment (DVOR/ DME), Non Directional Beacon (NDB), Performance Based Navigation (PBN), Precision Approach Patch Indicator System (PAPI), Approach Light System (ALS) and Radio Navigation. Seven projects inspected and validated by AEROTHAI were as follows:

- Flight inspection for PAPI at 9 airports: 6 airports of Airports of Thailand Public Co. Ltd. and 3 airports of Bangkok Airways Public Co., Ltd.
- Flight Inspection for ILS/DME/MM (Commissioning Check) at Takhi Royal Thai Air Force Base for Unitech Associates Co. Ltd.

- Flight Inspection for ALS at Hat Yai International Airport for Quintas Advance Co., Ltd.
- Flight Inspection for DVOR/DME and NDB for Department of Civil Aviation of Bhutan
- Flight Inspection for 7 airports in Nepal
- Flight Inspection and Validation at different airports in Cambodia for Cambodia Air Traffic Services Co., Ltd.
- Flight Validation for PBN for Partner Associates International Co., Ltd. (PAI), Myanmar

## <u>3. Readiness Assessment for Implementation of Reduced Vertical Separation</u> <u>Minimum (RVSM) of ATC for Operation Service</u>

AEROTHAI provided the service to 88 aircraft of 66 airlines and freight forwarders in 12 countries, which are Bhutan, China, Hong Kong, India, Indonesia, Malaysia, Myanmar, Nepal, Pakistan, Singapore, Vietnam and Thailand.

#### 4. Test Equipment Calibration and Maintenance Service

AEROTHAI provided the service to 1,286 pieces of equipment for in-house use and 120 pieces of equipment for another 11 organizations. Among those, 4 are new customers and part of a test equipment calibration service agreement; namely, CSPM Thailand Co. Ltd., NCC Management and Development Co. Ltd., BTS Group Holdings Public Co. Ltd., and Thai Aviation Service Co. Ltd. which is a part of Test Equipment Calibration Memorandum of Understanding between Office of the National Broadcasting and Telecommunications Commissions and AEROTHAI. Additionally, AEROTHAI also provided the service to Cambodia Air Traffic Service Co. Ltd.

#### 5. Rental of Communication Equipment Service for Airlines and Energy Sectors.

Furthermore, AEROTHAI was entrusted by the aviation business sector and the energy business sector to provide rental of Communication equipment services such as Trunked Radio, Conventional Radio, Air / Ground Radio and ATN Terminals & Printers to airlines and other aviation related agents at Suvarnabhumi Airport, Don Mueang International Airport, and all regional airports. For the fiscal year of 2017, AEROTHAI provided the services to support the company's core business at the amount of 1,506 sets. Total number of rental equipment amounted to 11,025 sets

#### 6. Satellite Communication Services

AEROTHAI has developed not only satellite communication circuits to IP Broadband, which is VIASAT Linkway S2, but also a communication networking system to DDN via IP Cloud. This improvement has led to increased efficiency and flexibility using any network topology. The IP VPN is capable of being used for Air Traffic Control Systems for both voice and data. AEROTHAI provided satellite communication services in order to support air traffic communication via voice and data to aviation organizations in 6 countries namely; Bangladesh, Cambodia, Lao PDR, Malaysia, Myanmar and Vietnam.

#### 7. Airlines Operational Communication Services (AOC)

AEROTHAI has installed an additional 21 remote ground stations (RGS) in 5 countries: 10 RGSs in Australia, 2 RGSs in Indonesia, 4 RGSs in South Korea, 1 RGS in Myanmar and 4 RGSs in Vietnam, totaling 161 stations (136 ACARSs in 15 countries and 25 VDLM2 in 6 countries) to service airlines with a coverage of 15 countries which are Australia, Brunei, Cambodia, India, Indonesia, Malaysia, Mongolia, Myanmar, New Zealand, Singapore, South Korea, Taiwan, Thailand, the Philippines, and Vietnam.

AEROTHAI provided AOC service to 175 airlines. The number of aircraft amounted to 7,200. The total amount of aviation data was 138.03 million Kb. which was an increase of 11.72 million Kb. or 9.28% from those of the last fiscal year.

#### 8. Training, Work Shop Meeting and Consultancy Service

AEROTHAI provided 4 training courses to civil aviation authorities and others as seen below:

Conducting "Radar Approach Assessor", "MLAT Refreshment Training course for ATC Instructor and ATC Consultant Services for MLAT Implementation and OJT" and "FDMC Familiarization and training" courses to Civil Aviation Authority of Mongolia (CAAM)

Conducting "MSSR Preventive Maintenance" course to Civil Aviation Authority of Nepal.

#### 9. Air Situation Display/ Ground Situation Display Service

AEROTHAI provided Air Situation Display/Ground Situation Display services for in-house use in order to strengthen the core business as strategic arms to Aeronautical Information and Flight Data Management Center and for other use pursuant to business objectives to other organizations: Nok Air, Bangkok Airways, Airports of Thailand PLC., Bangkok Aviation Center, and International Aviation College Nakorn Phanom University.

Additionally, AEROTHAI has offered assistance developing the aviation system and human resource for domestic organizations and others in neighboring countries. Supporting the aviation organizations in neighboring countries will increase the efficiency of ATS within the region, prepare for increasing traffic according to the economic growth, and assist Thailand in becoming the aviation centre in the region.

AEROTHAI provided 5 projects to civil aviation authorities as shown below;

- 1. Maintenance of DVOR/DME at Luang Prabang International Airport for Laos Air Traffic Management (LATM)
- Flight Inspection of Navigation Aids in Cambodia for Cambodia Air Traffic Services Co., Ltd. (CATS) as mentioned in Memorandum of Cooperation with CATS for air traffic service safety
- 3. Provision of the Receiver Autonomous Integrity Monitoring (RAIM) Prediction Service for Vietnam Air Traffic Management, Vietnam and Partner Associates International Co.,Ltd. (PAI), Myanmar
- Provision of ATS Direct Speech Circuit and Aeronautical Fixed Telecommunication Network via Satellite Communication Network for Department of Civil Aviation, Myanmar to provide ATS on the Bay of Bengal route
- 5. Provision of Consultancy and the connection of ATS Message Handling System (AMHS) circuit between Department of Air Transport, Bhutan (DoAT) and Airports Authority of India (AAI)

AEROTHAI has conducted research to develop new products, services, systems and technologies in order to support core business and expand the business opportunity by carrying on a product that has been developed: Integrated Emergency Alarm System, which is an alerting system at the air traffic control center when an aircraft accident or emergency occurs in an airfield. Then, it sends the alarm to other related organizations such as Fire Department, Search and Rescue, Ground Operating Department and others. According to the International Standard (ICAO) Annex14, 17.5 Facility, the Integrated Emergency Alarm System is manufactured not only to communicate in a variety of formats but also has emergency alerting signals. It functions by operating via special telephone, Two-way Radio Communication and General Alarm Systems.

#### Human Resource Management

#### Human Resource Management and Quality of Work Life

As one of the leading state enterprises in Thailand, AEROTHAI plays an important part in enhancing our potential to support Thailand to become a stable, prosperous and sustainable society. Since 2017 AEROTHAI has focused on these major human resource initiatives: Competency-Based Management, Leadership Development and Succession Plan, and Enhancing Employee Engagement.

Specifically, AEROTHAI revises our Competency Management System that includes Core Competencies for all position levels, Functional Competencies for all departments, as well as Leadership Competencies for all management. This year marked a start of Building the AEROTHAI Leadership Pipeline where 73 members of AEROTHAI's management participated in a comprehensive leadership assessment program. Participants go through globally accepted psychometric assessments, 360 degree assessments, assessment centers and one on one feedback sessions with certified assessors. As a result, AEROTHAI has more reliable and accurate information on each manager's strengths and weaknesses, which in turn can be used to create individual development plans (IDPs) and provide useful insights for AEROTHAI succession plans.

For the staff's quality of life, AEROTHAI has consistently organized many activities that aim to help staff achieve a work-life balance and promote good health, both physically and mentally. For example, our Total Quality of Life program, aims to educate our staff on how to take care of their health on a daily basis in order to prevent them from getting sick. Moreover, the Company provides various choices for health-promoting activities in term of time, venues, and instructors, to better serve different needs of our staff. Stress-relief massages are being given to our air traffic controllers to help them feel more relaxed under a demanding work environment. This year popular health-promoting activities include Zumba, yoga and body balance, to promote morality and the well-being of society and the environment, AEROTHAI continues to run The AEROTHAI Mini Volleyball that supports talented youth across the country to play volleyball. The program has proven a great success and many participants have grown to become national volleyball players, generating fame and a positive reputation for AEROTHAI and Thailand. Additionally, activities for social benefits have been provided at the Headquarters and regional centres throughout the year.

AEROTHAI emphasizes the importance of our staff, because the Company recognizes that the overall performance is mainly driven by the staff's dedication and willingness to work hard. AEROTHAI attempts to increase two-way communication channels across all levels. This year, there is a 'Meeting the President' activity held every month, where two representatives from each department get to meet the President. In addition, the Company continues to carry out Employee Engagement surveys annually and strives to strengthen our employee engagement, which will, in turn, lead to AEROTHAI's sustainable growth in the future.

#### Human Resource Development and Learning Management

AEROTHAI keeps developing the staff's competencies according to their core and functional competency and learning organization environment founding according to the Corporate Plan of 2017-2022. An AEROTHAI HR Model that consists of Training and Human Resource Development, Knowledge Management and Innovation Promotion.

#### Training and Human Resource Development

AEROTHAI develops the staff's competency by providing the training and human resource development as follows:

- 1. Training and Development for Management: To develop managers to have Leadership Competency (LC)).
- Training and Development for staff: To develop staff to have 3 areas of competencies which are Core Competency (CC), Functional Competency (FC), and Leadership Competency (LC) by providing competency assessment and implementing Individual Development Plan (IDP) under AEROTHAI Competency Based Learning Model framework.

In addition, AEROTHAI encourages staff to increase their knowledge to be AEROTHAI's future main force by providing scholarships to staff to study in prestigious institutions, both in Thailand and abroad from Bachelor's Degrees up to Doctoral level in Engineering, Aviation and Law.

- 3. The functional competencies currently-required are as follows;
  - 3.1 Competency for Air Traffic Service include;
    - Air Traffic Control Service
    - Aeronautical Information Service
    - Safety and Standards
    - Administration supporting Air Traffic Service
    - English Communication for Air Traffic Controllers
    - Thailand Modernization of CNS/ATM Systems
    - USAP-CMA
  - 3.2 Competency for Engineering Service
    - CNS Engineering Service
    - Thailand Modernization of CNS/ATM Systems
    - Instructors skill and knowledge

#### Knowledge Management (KM)

AEROTHAI has launched knowledge management (KM) tools since 2004 with the aim of using the acquired knowledge to drive management to be effective and to enhance AEROTHAI's capability to compete at an international level according to the following processes: KM focus areas, knowledge identification, knowledge creation and acquisition, knowledge sharing and transferring knowledge collection. In addition, a continuous assessment of the success of knowledge management is provided every year. In 2017 AEROTHA encouraged every department to have its own knowledge mapping to be used to search for key knowledge and experts in every area and to be linked to important processes in AEROTHAI.

#### **Innovation Promotion**

AEROTHAI has continued to put emphasis on internal innovation promotion. In 2017 AEROTHAI has developed new framework of presenting innovative solutions called "User Challenge", by introducing Eleven Key Performance Areas (11 KPAs) of ICAO. There are 13 innovations entered the competition for AEROTHAI INNOVATION AWARD 2017, which 6 innovations out of 13 were proposed to the National Research Council of Thailand (NRCT) for Invention Prize:

- 1. Aerodrome Meteorological Reporting and Alerting System
- 2. Radio Network Remote Monitoring System on Web Browser
- 3. Calculated Take Off Time for Air Traffic Flow Management in Bangkok FIR Mobile Application
- 4. SQUAWK Detection 2
- 5. Hybrid Automate Calibration Software Attenuation and RF cable loss
- 6. Mobile TETRA Based Station

In addition to this, in 2017 AEROTHAI presented "Air Traffic Flow Management Support System for Adverse Conditions", winning an award in the AEROTHAI INNOVATION AWARD 2016 to the country and the world exhibitions. The results were as follows:

- 1. The NRCT Prize for Invention: "Very good" prize in IT and Communication Arts field.
- 2. The 45th International Exhibition of Inventions of GENEVA 2017: Bronze Medal in P class: Transport Motor Vehicles Ships Aviation Accessories.
- 3. The World ATM Congress 2017: HIS's ATC Award on Service Provision Category.

#### Performance on Investment Expenditure

Since 2017 the Government's policy has been to set the target for investment expenditure at more than 95% of the approved budget. AEROTHAI's preliminary accumulated investment expenditure is Baht 1,526.88 million (data as of September 30, 2017) which is 89.29% compared to the approved budget of Baht 1,710.00 million, lower by Baht 183.12 million from the approved budget. However, after adjusting to the Ministry of Finances guidelines (the target can be adjusted if the actual expenditure is lower than the approved budget; for example) AEROTHAI's investment expenditure is 100.63% of the approved budget which is the second year in a row that AEROTHAI has disbursed more than 100%.

#### Performance Appraisal

AEROTHAI's performance appraisal was completed through a performance agreement of state enterprise's operation with the Ministry of Finance with the State Enterprise Policy Office (SEPO) as the regulating body. The Government recognizes the importance of developing and adding value to enterprises to be more efficient, which will lead to increasing the competitiveness of the enterprises and the creation of added value to the property of the state. The State Enterprise Performance Appraisal (SEPA) is a tool which consists of 2 parts: the assessment and evaluation of systems and processes for corporate management 6 categories (leadership, organizational strategic planning, customer and market focus, measurement/analysis/management of knowledge, focus on personnel, and focus on operations) and the performance results of the operation. AEROTHAI yielded an overall performance appraisal of 4.3536 in the Fiscal Year 2016.

| Operating Performance as per SEPA | Fiscal Year 2016 |             |
|-----------------------------------|------------------|-------------|
|                                   | Process          | Performance |
| Weight                            | 50               | 50          |
| Weighted Result                   | 342.75 / 2.1833  | 2.1703      |
| Total                             | 4.3536           |             |

#### **Company Rating**

In the Fiscal Year 2017, the Company's rating was evaluated by the TRIS Rating Company Limited, which affirms the company at "AAA" and the "Stable" outlook. The rating reflects the monopolistic status of AEROTHAI as the sole air navigation service provider in the Country, as well as its good safety record, strong financial standing, and experienced management team. The Company's credit profile is enhanced based on TRIS Rating's view on the potentially extraordinary support from the government in the event of financial distress. However, these strengths are partially offset by the susceptibility of the air transport industry to event risks. The "stable" outlook reflects TRIS Rating's expectation of AEROTHAI's continued monopolistic status as the sole air navigation service provider in the country in the foreseeable future and its ability to maintain good operating records. In addition, TRIS Rating expects the company to sustain a strong liquidity position. A rating downgrade scenario may occur if its linkage with the government is weakened to the degree that it changes TRIS Rating's view on the prospect of extraordinary support from the government.

#### Awards Received during the Year

The Company was granted with the Thailand Labour Management Excellence Award 2017 for workplaces as follows;

| Type of Award             | Workplace which received Award           | Received awards |
|---------------------------|--|-----------------|
|                           |  | for             |
|                           |  | Consecutive     |
|                           |  | years           |
| Thailand Labour           | 1. AEROTHAI Headquarters                 | 12              |
| Management                | (Tungmahamek)                            |                 |
| Excellence Award,         | 2. Pitsanulok Air Traffic Control Centre | 12              |
| National level (Platinum) | 3. Hat Yai Air Traffic Control Centre    | 11              |
| (Maintain for 10          | 4 . Surat Thani Air Traffic Control      | 11              |
| consecutive years or      | Centre                                   |                 |
| longer)                   | 5. Chiang Mai Air Traffic Control Centre | 10              |
|                           | 6. Nakhon Ratchasima Air Traffic         | 10              |
|                           | Service Engineering and Operating        |                 |
|                           | Centre                                   |                 |
|                           | 7. Ubon Ratchathani Air Traffic Control  | 10              |
|                           | Centre                                   |                 |

| Type of Award  | Workplace which received Award   | Received awards<br>for<br>Consecutive<br>years |
|--|--|--|
| Thailand Labour<br>Management Excellence<br>Award, National level<br>(Diamond) (Maintain for 5-9<br>consecutive years) | 1. Office at Suvarnabhumi Airport  | 9  |
| Thailand Labour<br>Management Excellence<br>Award , National level (Gold)<br>(Maintain for 1-4 consecutive<br>years)   | <ol> <li>Udon Thani Air Traffic Control<br/>Centre</li> <li>Phuket Air Traffic Control<br/>Centre</li> </ol> | 2  |
| Thailand Labour<br>Management Excellence<br>Award , Provincial level   | 1. Hua Hin Air Traffic Control<br>Centre   | 1  |

#### Highlighted Activities

AEROTHAI has supported the development of aviation in Thailand and the Asia/Pacific Region as follows:

1. Result of the ICAO's Security Audit under the Universal Safety Audit Program - Continuous Monitoring Approach (USAP-CMA).

The Company has implemented activities that promote aviation security such as the training of aviation security personnel, reviewing and setting up of the Quality Control Functions, aviation security measures and operating responses to acts of unlawful interference. These actives have been prepared in accordance with the National Civil Aviation Security Programme under the scrutiny of Civil Aviation Authority of Thailand and the cooperation of relevant organizations.

ICAO visited the Company's Headquarters on 12<sup>th</sup> July 2017 and the Control Towers at Suvarnabhumi Airport and Don Mueang Airport on 17<sup>th</sup>-18<sup>th</sup> July 2017. The purpose of the audit was to observe and assess the Company's adherence to associated security procedures, guidance materials, and security-related practices. The areas of audit were rules and regulations, personnel training, quality control and standards, and security systems at airports. The scope of the assessment concerns 4 major areas;

- 1. Deployment of the National Aviation Security Programme into the actions.
- 2. Physical and Information Security
- 3. Acts against interference by unlawful acts particular Hijack and Bomb Threat
- 4. Security Personnel

The audit has already been carried out and the results were satisfactory and the Company had no findings or recommendations for further actions.

#### 2. The Common Regional Virtual Private Network (CRV) Project.

The Company has implemented the CRV Project with the objective of procuring the CRV network, based on the Multiprotocol Label Switching Network, to replace the aeronautical connections which will not efficiently serve data usage in the future. CRV follows ICAO's ASBUs concept. ICAO Asia and Pacific (APAC) Regional Office decided that for the APAC region, the CRV will be the foundation network of System Wide Information Management (SWIM). In 2013 ICAO APAC set up the CRV Task Force (CRV TF) with the goal of studying CRV network concepts and selecting the best provider of CRV for the APAC region. Representatives from AEROTHAI have been nominated as the CRV TF Chairman and the CRV TF completed the designated task in 2017. The selected CRV provider for the APAC regional is PCCW Global, Hong Kong, and ICAO APAC. The office issued state letters urging all ICAO APAC states to expedite their contracts for CRV services with PCCW Global. In November 2017 AEROTHAI and the Civil Aviation Department (CAD), Hong Kong, China were the first city-pair in the world to conduct CRV operational readiness trials. The trials were successful and provided assurance that the CRV network is ready for operation. For AEROTHAI's part, the CRV contract with PCCW Global will be the next phase and AEROTHAI will follow the guidance from ICAO with regards to the use of CRV.

#### 3. The Management during the closing of runways at Suvarnabhumi Airport

Airports of Thailand Public Company Limited or AOT announced the closure of runway East (partial) at Suvarnabhumi Airport for repair and maintenance for 60 days between  $3^{rd}$  March –  $2^{nd}$  May 2017. The Company has jointly been working with AOT and airlines by setting up plans for improving air traffic management during the period of runway closures for the sake of safety and minimal delays. The result of

performance is satisfactory as there have been no accidents or incidents. Delay times on air and ground is less than those during the normal period by 8.66 % and 18.90 % respectively. The operation was recognized by pilots, airlines and other organizations relevant to aviation services at the Airport.

#### Organization Performance

#### **Risk Management**

AEROTHAI has implemented its Corporate Risk Management according to Risk Management and Internal Control guidelines/procedures of State Enterprise Policy Office (SEPO) of Ministry of Finance which is based on the concept developed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In the fiscal year 2017 AEROTHAI carried out risk management work according to its Risk Management and Internal Control Master Plan 2017 approved by the Risk Management Board on 19 December 2016 in following areas:

#### Strategic Risk:

AEROTHAI has managed strategic risk by using the target of investment expenditure set by the government's policy and the accomplishment of projects contained in the Corporate Plan 2017-2021 as the indicators of this risk. The results show low risk by missing targets of investment expenditure. However, the accomplishment of projects has to be followed up and accelerated to accomplish the expected plan.

#### **Operational Risk:**

Safe and efficient air navigation services and becoming high performance organization are the focus of Operational Risk. Overall evaluation indicates that 3 out of 4 risks need to be further managed, those are:

1) Bangkok Approach Control Centre (BACC) air traffic controller's fatigue by long working hours.

2) Intrusion of unmanned rockets and sky lanterns in flight operation areas create safety concerns for aircrafts, by pushing cooperation with outside agencies. Both agencies for aviation-related government and ruling parties. Specifically, PR Communications allowing the rocket/balloon release. The report found that the fireballs were unfounded.

3) Airspace is not sufficient for high volume air traffic in BACC. The risk management measures need to be monitored and reviewed. Additional measures of short, medium, and long-terms may need to be issued for ongoing improvement operation in the fiscal year 2018.

#### Financial Risk:

AEROTHAI always monitors risks arising carefully from external factors that affect air traffic volumes and AEROTHAI's income. In the fiscal year 2017, increasing air traffic volume resulted in higher income, higher liquidity, in addition, reduced financial risk.

#### Compliance Risk:

AEROTHAI acts on the good governance concept and related legislations/laws, notably in the following risk areas:

- Risk area 1: Corporate Governance (CG) reviewing performance audit results, complaints, findings related to CG concept
- Risk area 2: General legislations/laws reviewing litigation and the accused fine
- Risk area 3: Aviation laws reviewing performance audit results, complaints, findings related to aviation laws

In the fiscal year 2017, AEROTHAI's compliance risk is low and at an acceptable level as mentioned above.

#### Business Continuity Management (BCM)

AEROTHAI has implemented the Business Continuity Management (BCM) by evaluating risks by events that might impact to AEROTHAI's operations. Then, all operation centers of AEROTHAI will simulate a scenario for testing the plan and checking the readiness if unexpected situations occur.

#### Internal Control

AEROTHAI has sufficient and appropriate internal control and always reviews working process changed by varying internal and external environments. The review and evaluation process act on an internal control standard by the State Audit Commission (SAC).

#### Section 2 Corporate Good Governance Information

## Operational Report of the Corporate Governance and Corporate Social Responsibility Policy

#### Corporate Governance and Corporate Social Responsibility Policy

In the fiscal year 2017 AEROTHAI has revised its Corporate Governance and Corporate Social Responsibility Policy and Corporate Governance and Corporate Social Responsibility Master Plan 2017-2021. The said policy and master plan have been carried out according to the corporate governance principles and guidelines for state enterprises, 2009. They are current and up to date as follows:

Corporate Governance and Corporate Social Responsibility Policy

"Aeronautical Radio of Thailand Ltd. strictly adheres to administration under good corporate governance which provides safety service with quality of international standard and responds to stakeholders' satisfaction with fairness, transparency and responsibility to society and environment"

# Implementation of Corporate Governance and Corporate Social Responsibility Master Plan 2017-2021 in 2017.

In the fiscal year 2017, AEROTHAI has implemented Corporate Governance and Corporate Social Responsibility Master Plan, 2017-2021. The plan is comprised of a corporate governance plan (CG), AEROTHAI Way Anti-corruption plan, corporate social responsibility plan (CSR) as well as the guidelines to encourage implementation of both CG & CSR. AEROTHAI has achieved practical results of the Company's performance according to the targets and indicators of all plans, especially in 2016, the prevention of conflict of interests was rated a high score in integrity and transparency evaluation for Government Agencies and State Enterprises according to the Office of National Anti-Corruption Commission's standard. In the fiscal year 2017 AEROTHAI signed a Memorandum of Understanding (MOU) for Thailand's National Anti-Corruption (Phase III) 2017-2021 with the Office of the National Anti-Corruption Commission (NACC), State Enterprise Policy Office (SEPO) and 54 state enterprises on anti-bribery and established an Anti-Corruption Operation Centre in AEROTHAI. AEROTHAI has drafted action plans for Codes of Conduct and anti-corruption and Thailand's National Anti-Corruption (Phase III) integration plan under the supervision of the Ministry of Transport's Anti-Corruption Operation Centre. Both plans will be used to draft the Corporate Governance and Corporate Social Responsibility Master Plan, 2018-2022.

In the fiscal year 2017 for the corporate social responsibility projects (CSR), AEROTHAI has developed the 2016 community innovations to be suitable for a sustainable economic living philosophy of His Majesty King Bhumibol Adulyadej, King RAMA 9 and has given 224 scholarships of Nan Fah Thai Foundation to under privileged children all over Thailand.

#### Adherence to the Official Information Act B.E. 2540 (1997)

The Company has complied with the Official Information Act, B.E. 2540 by making available official information for inspection by the general public. In the Fiscal Year 2017 there was one request made from Vivat Company Limited for contractual information for use in the dispute over the construction of six radar towers with Selex ES S.p.A Company Limited.

#### **Board of Directors**

The Cabinet Resolution on 18<sup>th</sup> October 1994 agreed to the structure of the Board of Directors of the Company to have 11 directors comprising of 8 persons from the Ministry of Transport and 1 person from the Ministry of Finance (A Shareholder Representatives by the Government) and 2 B Shareholder Representatives (Member Airlines)

Article 33 of the company's Articles of Association stipulates that the company's Board of Directors consists of not less than three Directors and Article 39 stipulates the nomination of Directors by both A and B shareholders as follows:

(1) The Thai Government shall be entitled to nominate Directors of the Company and the Thai Government's nominees shall be appointed Directors. One of these Directors' as nominated by the Thai Government, shall be the Chairman of the Board of Directors of the Company.

(2) The holders of B shares shall be entitled to nominate two Directors and these nominees shall be appointed Directors.

#### THE Board of Directors in the Fiscal Year 2017

In the fiscal year 2017, the Board of Directors consisted of the following 11 Directors:

1. General Kanit Sapitaks

# (Appointed as the Directors on 15<sup>th</sup> August 2014, appointed as Vice Chairman on 18<sup>th</sup> August 2014 and appointed as Chairman on 23<sup>rd</sup>

January 2017)

Chairman

**Age:** 65

Position: Retired Officer, Ministry of Interior

#### Education:

- Bachelor of Science, Chulachomklao Royal Military Academy
- Commander and General Staff College (Class of 63)
- National Defense College (Class of 49)

#### Work Experience:

- Commanding officer, 2<sup>nd</sup> Infantry Division, Queen's Guard
- Commanding General, 1<sup>st</sup> Army Area
- Special Advisor to the army
- Chairman of the Advisory Committee, Ministry of Defense
- Judge of Military Supreme Court
- Special Royal Guard
- Member of the National Legislative Assembly (2006)

#### Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Security
- Public Law

### Other Positions:

- Member of the Board of Directors, BCPG Company Limited
- Member of the National Legislative Assembly (2014)
- Executive Director of the Royal Turf Club of Thailand
- Member of the Board of Directors, Five Provinces Forest

#### 2. Mr. Prasit Suebchana

#### Vice Chairman

(Appointed as the Director on 25<sup>th</sup> January 2016 appointed as Vice Chairman on 30<sup>th</sup>January 2017 and retired on 1<sup>st</sup> October 2017)

#### **Age:** 60

Position: Inspector General, Ministry of Finance

#### Education:

- Bachelor of Law, Ramkhamhaeng University
- Master of Public Administration, National Institute of Development Administration

#### Work Experience:

- Active Senior Property Valuation Development Advisor, the Treasury Department
- Inspector General, Ministry of Finance
- Deputy Permanent Secretary, Ministry of Finance
- Chairman of the Board of Directors, Government Housing Bank
- Chairman of the Executive Board, Government Housing Bank
- Member of the Board of Directors, Government Savings Bank

- Chairman of the Executive Board, Government Savings Bank
- Member of the Board of Directors, National Housing Authority
- Vice Chairman of the Board of Directors, Dhanarak Asset Development Company Limited

#### Training:

- Strategic for Improving Director' Effectiveness Kellogg school of Management, USA
- Diploma, National Defense College, The State, Private Sector and Political Sectors Course
- Senior Executive Development Program(Class of 2), the Office of the Civil Service Commission (OCSC)
- Public Director Certification Program (PDI class of 5), King Prajadhipok's Institute
- The Program for Senior Executives on Justice Administration (Batch 15), Judicial Training Institute
- Top Executive Program in Commerce and Trade (TEPCot class of 5), University of the Thai Chamber of Commerce
- Training Course on Administrative Justice for Executives (Class of 5), Office of the Administrative Court
- Training Course an Anti-Corruption Strategic Management for Senior Executives (Class of 6), Office of the National Anti-Corruption Commission

#### Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Public Law

#### Other Positions:

- Special Advisor, the Administrative Court of Thailand
- Qualified Member of the Commission for Judicial Service
- Member of the Board of Directors, Provincial Electricity Authority
- Member of the Board of Directors, the Transport Company Limited
- Board of compare the suspension of prosecution under Section 102 bis of the Customs Act 2469 B.E.
- Board of Compare the Act Commission and promote Insurance Business

# 3. Air Chief Marshal Siwakiat Jayema

## Vice Chairman

(Appointed as the Chairman On 30<sup>th</sup> April 2017)

## **Age:** 60

**Position:** Deputy Secretary of Defense

## Education:

- 16<sup>th</sup> Infantry School
- 23<sup>rd</sup> Naval Aviation School
- 35<sup>th</sup> Air Staff School
- College of Chief of Staff Military (Class of 38)
- National Defense College (Class of 51)
- Master of Business Administration, Kasetsart University

## Work Experience:

- Assistant Air Command of Staff
- Special Forces Air Force
- Deputy Chief of Air Staff of Air Force
- Assistant Chief of Air Staff of Air Force
- Flying School Commander

## Training:

- Director Certification Program (DCP) Class of 227 of Thai Institute of Directors Association
- Executive Course of Capital Market Academy
- Political course of government in the monarchy for senior executives (Class of 21)
- Role of the Chairman Program (RCP) class of 41 of Thai Institute of Directors Association

## Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Transportation and Air Transport
- Security

- Director of Thai Airways International Public Company Limited
- Member of the National Legislative Assembly

## 4. Mr. Krichthep Simlee

# Director

(Appointed as Director on 30<sup>th</sup> January 2017)

## Age: 58

Position: Deputy Secretary of Communications

# Education:

- Bachelor's Degree Civil Engineering, Chiang Mai University
- Master of Arts Political Leadership, Business, Politics, Rangsit University
- National Defense College (Class of 53)
- High-ranging Officials course of Institute of Damrong Rachanupap, Ministry of Interior
- Public Administration and Public Law course of King Prajadhipok's Institute

# Work Experience:

- Inspector General, Ministry of Transport
- Deputy Director General of the Department of Rural Roads

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Transportation and Air Transport
- Civil Engineering

- Director of Port Authority of Thailand
- Tourism Authority of Thailand
- Warehouse Supervision Committee at Suvarnabhumi Airport
- Aircrafts Fuel Services Project Supervisory Board at Suvarnabhumi Airport (Excluded Hydrant)
- Aircrafts Fuel Pipeline Project Supervision Committee of Hydrant at Suvarnabhumi Airport
- The Second Stage Expressway Supervision Commission

# 5. Mr. Puttipong Prasarttong-Osoth

# Director

(Appointed on 18<sup>th</sup> April 2012 and resigned on 28<sup>th</sup> January 2015 and reappointed on 17<sup>th</sup> March 2015)

**Age:** 52

Position: President, Bangkok Airways Public Company Limited

# Education:

- Bachelor of Commerce and Accountancy, Chulalongkorn University
- National Defense College (Class of 54)

# Work Experience:

- Senior Vice President Operations, Bangkok Airways Company Limited
- Vice President Operations, Bangkok Airways Company Limited

# Training:

- SASIN Senior Executive Program, SASIN Graduate Institute of Business Administration of Chulalongkorn University
- Certificate of Commercial Pilot Licence
- The Program for Senior Executives on Justice Administration (Batch 13), Judicial Training Institute

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Transportation and Air Transport

- Director of the Board of Bangkok Air Catering Company Limited
- Director of the Board of WFS-PG Cargo Company Limited
- Director of the Board of Worldwide Flight Service Bangkok Air Ground Handling Company Limited
- Director of the Board of Bangkok Helicopter Services Company Limited
- Pilot of Airbus 319/320 fleet, Bangkok Airways Public Company Limited
- Advisor, Bangkok Christian College Association
- Senior Advisor, Nakorn Ratchasima's Municipality

# 6. Flight Lieutenant Werasak Wiroonpetch

# Director

(Appointed on 31<sup>st</sup> October 2016 and retired on 30<sup>th</sup> September 2017)

# **Age:** 60

Position: Senior Executive Vice President, Operations

# Education:

- Bachelor of Aircraft Engineering, National Defense Academy of Japan
- Accident investigation, Sweden

# Work Experience:

- Director of Aviation Support Operations, Thai Airways International Public Company Limited
- Director of Aviation Safety, Thai Airways International Public Company Limited

# Training:

- Director Certification Program (DCP) Class of 245, Thai Institute of Directors Association

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Telecommunications and Technology
- Transportation and Air Transport
- Engineering

# Other Positions:

- Director, Thai Flight Training Company Limited

# 7. Mrs. Phongsaward Guyaroonsuith

# Director

(Appointed as the Directors on 31<sup>st</sup> October 2016)

# **Age: 50**

Position: Committee of Draft Law

Education: Bachelor of Law, Thammasat University

# Work Experience:

- Committee of Draft Law
- Director of Legal Law

# Training:

- Draft Law and Legal Opinions Course, Office of the Supreme Court
- Middle Management Course with Preparation for ASEAN Community, Office of the Civil Service Commission
- Executive Development Program (EDP 1), Office of the Civil Service Commission

- AEC Economic Development Zone, Office of the Civil Service Commission
- Life Style Development, Office of the Civil Service Commission
- Executive Course (Class of 5), Office of the Civil Service Commission
- Ministry spokesman course, The Prime Ministry

# Fields of Competence:

Law

# Other Positions:

 Name listed in the Directors' Pool of State Owned Enterprise in Law (Administrative Law, Civil and Commercial Law) and Special Law (Participation in State Undertakings)

| 8. Police General Dechnarong Sutticharnbancha | Director                       |
|---|--------------------------------|
|   | (Appointed on 23 <sup>rd</sup> |
|   | January 2017)                  |
| Age: 60                                       |                                |

**Position:** Deputy Commander of National Police

# Education:

- Bachelor of Public Administration, Police Cadet
- Master of Business Administration, National Institute of Development Administration
- National Defense College (Class of 55)

# Work Experience:

- Advisor to Royal Thai Police (RTP 10)
- Assistant Commissioner of National Police
- Acting Provincial Police Commander, Region 4

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Telecommunications and Technology
- Security
- Law

# 9. Police Major General Surachate Hakparn

# Director

(Appointed on 31<sup>st</sup> October 2016 and resigned on 23<sup>rd</sup> January 2017 and reappointed on 23<sup>rd</sup> January 2017)

# **Age:** 47

# Position: Acting, Deputy Chief of Travel Police

## Education:

- Bachelor of Public Administration, Police Cadet
- Master of Social Science Criminology and Justice Administration, Mahidol University
- Doctor of Public Administration, University of Eastern Asia

# Work Experience:

- Director of Hat Yai Police Station
- Deputy Chief Inspector and Special Operations
- Commander of the Office Of the Commissioner of Police (Coordinating Policies with the Prime Minister)
- Tourist Police Commander
- Checkers and Special Operations

# Training:

- High-Level Justice Administration (TCG) Class of 20, Institute of Judicial Development, Judiciary
- Ravens Challenge ASEAN 2017 Workshop 4, Royal Thai Police

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Engineering
- Law

- Director of Expressway Authority of Thailand
- Company's Committee Security Krungthai Business Services Co, Ltd.

## 10. Colonel Peerawat Promkladpanao

# Director

(Appointed on 15<sup>th</sup> August 2014 and resigned and reappointed on 23<sup>rd</sup> January 2017)

**Age:** 47

**Position:** Officer of the operation, Royal Thai Armed forces Headquarters **Education:** 

- Bachelor of Electrical Engineering (Communication Engineering), Chulachomklao Royal Military Academy

- Master of Public Administration (MPA), Burapha University

# Work Experience:

- Officer of the operation, Royal Thai Armed forces Headquarters, Attached in Joint Civil Affairs, National Telecommunications Commission (NBTC)
- Attached in Joint Civil Affairs Department, Royal Thai Armed Forces Headquarters, On Temporary Duty of Vice Chairman, National Broadcasting and Telecommunications Commission and Chairman, National Telecommunications Commission (NBTC)
- Assistant Director of Civil Affair Department, Royal Thai Armed Forces Headquarters
- Chief of Civil Affair Department, Royal Thai Armed Forces Headquarters
- Staff officer of Deputy supreme commander office, Royal Thai Armed Forces Headquarters
- Staff officer of Signal Department Budget Division, Royal Thai Army
- Executive officer of Signal Battalion, 2<sup>nd</sup> Cavalry Regiment Royal Guard
- Operation and Intelligence Division Officer, 12<sup>th</sup> Signal Battalion Royal Guard, 2<sup>nd</sup>
   Cavalry Regiment Royal Guard
- Service Company Executive Officer, 12<sup>th</sup> Signal Battalion Royal Guard, 2<sup>nd</sup>
   Cavalry Regiment Royal Guard
- Service Company Commander, 12<sup>th</sup> Signal Battalion Royal Guard, 2<sup>nd</sup> Cavalry Regiment Royal Guard
- Artificer Staff Officer, 12<sup>th</sup> Signal Battalion Royal Guard, 2<sup>nd</sup> Cavalry Regiment Royal Guard
- Prachinburi to Aranyaprathet railway station Fiber optic setup team Commander
- Assistant secretary of CAT Telecom Public Company Limited
- Corporate Governance Committee of CAT Telecom Public Company Limited
- Public Relations Committee of CAT Telecom Public Company Limited

- Corporate Governance Committee of TRUE-move, Total Access Communication Public Company Limited and Digital phone issue according to legal Problems of "Draft Act on Private Participation in State Undertaking B.E.2535 (Section 22)" CAT Telecom Public Company Limited
- Public Affairs Expert of TOT Public Company Limited
- Working Group of National Council for Peace and Order

# Training:

- New Infantry Officer Orientation Course : Signal
- Electronic System Engineering Course : Signal (Class of 8)
- Infantry Officer Basic Course : Signal (Class of 42)
- Infantry Officer Advance Course : Signal (Class of 37)
- Infantry Chief of Staff Course (Class of 84)
- Comptroller of The Army Course (Class of 26)
- Public Director Certification Program (PDI class of 13), King Prajadhipok's Institute
- Director Certification Program (DCP class of 201), Thai Institute of Directors
- Boards that Make a Difference (BMD class of 1), Thai Institute of Directors
- Board Matters & Trends (BMT class of 1), Thai Institute of Directors
- Advanced Audit Committee Program (ACCP class of 26), Thai Institute of Directors
- Driving Company Success with IT Governance (ITG class of 5), Thai Institute of Directors
- Board Nomination & Compensation Program (BNCP class of 2) Thai Institute of Directors

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Engineering
- Telecommunication and communication
- Security
- In the List of state enterprise directors Management and Business Management (Organization Management)

# Other Positions:

 Deputy Chief Working Group check the content of the broadcast to the public, National Broadcasting and Telecommunications Commission (NBTC)

## 11. Mrs. Sarinee Angsusingha

# President

(Appointed on 15<sup>th</sup> August 2014 and resigned on 27<sup>th</sup> January 2016 and reappointed on that day)

**Age:** 58

Position: President, Aeronautical Radio of Thailand Limited

# Education:

- Bachelor of Arts, Kasertsat University
- Master of Business Administration, Kasertsat University
- National Defense College (Class of 55)

# Work Experience:

- Executive Vice President, Aeronautical Radio of Thailand Limited
- Expert, Executive Vice President Level, Aeronautical Radio Of Thailand Limited

# Training:

- Air War College (Class of 34)
- Leadership Succession Program (LSP)
- Training Courses on Administrative Justice for Executives (Class of 6)
- Training Course an Anti-Corruption Strategic Management for Senior Executives (Class of 7), Office of the National Anti-Corruption Commission
- Ethical Leadership Program (ELP class of 1), Thai Institute of Directors
- Director Certification Program (DCP class of 219), Thai Institute of Directors

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Transportation and Air Transports
- Telecommunication and Technology

- Board of Directors of State Enterprise Labor
- Name listed in the Directors' Pool of State Owned Enterprise Management and Business Administration (Public Relations), Energy (Energy Fuels), Social (Corporate Governance)

# DIRECTOR RETIRING DURING THE FISCAL YEAR 2017

# 1. Air Chief Marshal (Retd) Itthaporn Subhawong

# Chairman

(Appointed as the chairman on 15<sup>th</sup> August 2014 and retired on 6<sup>th</sup> January 2017)

# **Age:** 65

Position: Retired Officer, Ministry of Defense

# Education:

- Bachelor of Aeronautical Engineering, Royal Thai Air Force Academy
- National Defense College (Class of 47)

# Work Experience:

- Commander in Chief of the Air Force (21<sup>st</sup>)
- Chairman of the Board of Directors, Thai Aviation Industries Co.Ltd.
- Chairman of the Recruitment Panel of the National Reform Council
   Public Health and Environment
- Advisor to the Chairman of the Board of Directors, TMB Bank Public Company Limited

# Training:

- Air Command and Staff College (Class of 31)
- Air War College (Class of 34)

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- Law
- Air Transport, Aviation and Air Traffic Control
- Engineering
- Security

- Independent Directors, CP LOTUS PCL
- Member of the National Legislative Assembly
- Consultant of the National Council for Peace and Order
- Vice President of sub-committee to prevent security forces the country and the Military affairs, the Commission and the administration of State affairs, National Legislative Assembly

## 2. Mr. Chaicharearn Atibaedya

# Director

(Appointed as the director on 15<sup>th</sup> August 2014 and retired on 22<sup>nd</sup> January 2017)

**Age:** 65

# Position: Academic

# Education:

- Bachelor of Electrical Engineering and Mechanical, Philippines
- Master of Business Administration, Kasetsart University

# Work Experience:

- Executive Vice President, PTT Research & Technology Institute
- Executive Vice President, PTT, Chairman of the Executive Committee of sustainability, PTT Group
- President, PTT ICT Solutions Co.Ltd.
- Member of the Board of Directors, National Metal and Materials Technology Center
- Member of the Board of Directors, National Electronics and Computer Technology Center
- President of the Association, CIO 16
- Chairman Technology Innovation Management Group (TIMG, TMA)
- President of Thailand IT Architects Association

# Training:

- Certificate from Confederation of British Industry (CBI): Turbine Compressor: Instrumentation; Automation & Process Control Systems, UK.
- Certificate : Banff School of Advance Management, Canada
- Certificate : GE Management School ; USA
- Certificate: SASIN & KELLOGG School of Management, USA.
- Certificate: MIT Sloan School of Management, USA.
- Innovation, MIT Slone, USA

# Fields of Competence:

- Management and Business Administration, Strategy and Development Planning
- ICT and Changes Management
- Engineering

# Other Positions:

 Executive Board Member, Electronic Government Agency (Public Organization) (ICT) (Now renamed Ministry of Digital Economy and Society)

- Committee on Government Computer Systems Supply
- The Civil Service Sub-commission on Development of Public Sector
- Workforce Quality
- Chairman of the Executive Board, ASEAN CIO Association
- Name listed in the Directors' Pool of State Owned Enterprise in Engineering, Information and Communication Technologies, Personnel Development

#### ROLES AND RESPONSIBILITY OF BOARD OF DIRECTORS

The Board of Directors establishes the policies and oversees the Company's operation. They also play an important part setting up the strategic plans for organization development in accordance with State Enterprise's practices and the Company's vision stating that "One of the Best Air Transport Hubs in the World". The Board of Directors appoints the knowledgeable and experienced directors to Sub-Committees for screening any necessary matters as follows:

- 1. The Executive Committee
- 2. The Audit Committee
- 3. The Risk Management Committee
- 4. The Remuneration Committee
- 5. The Corporate Governance and Corporate Social Responsibility Committee
- 6. The Legal Committee

The Six Independent Directors were also announced.

The Company schedules the Board of Directors' meetings in advance throughout the year and meetings are held each month to oversee and monitor the Company's operations. Meetings and some extra meetings will be called for if necessary as shown in the Annual Report. The meeting invitation letter and agenda in the form of document are provided to the Board of Directors 3-5 days prior to the meeting.

The minutes of the meetings are recorded in writing and kept available for Directors and relevant persons to inspect. In addition, the minutes of the Executive Committee's Meetings and Board of Directors' Meetings are distributed to A Shareholders (The Ministry of Finance and the Ministry of Transport) and B Shareholders (Member Airlines) for acknowledgement and also available on the website for shareholders.

## The Evaluation of Board of Directors

To be in line with the Good Corporate Governance practice the Board of Directors self-evaluate in order to monitor themselves to better perform their duties. This evaluation also assists them in setting the Company's direction and supervising the management properly. The evaluation is conducted every six months and based on two categories: Self-Assessment and Board Evaluation.

| Category of<br>evaluation | First Evaluation<br>(October 2016 – March 2017) |           |       |           |
|---------------------------|---|-----------|-------|-----------|
|                           | Point   | Level     | Point | Level     |
| Self-Assessment           | 108.1   | Excellent | 107.8 | Excellent |
| Board<br>Evaluation       | 116.7   | Excellent | 116.5 | Excellent |

The Self-Assessment consists of six topics: core competency, independence, preparedness, practices as a director, committed activities and development of organization. The Self Assessment's result was shown as excellent.

The Board Evaluation consists of four topics: Board of Directors and their meetings, communications, work procedures and the relationship with executive management. The Board Evaluation's result was shown as excellent.

#### The Board of Directors' knowledge and skill development

The Company realized the importance of the Board of Directors' competency development, which contributed to the Company highest efficiency and productivity as well as being in line with the Good Corporate Governance practices. In the fiscal year 2017 the Board of Directors participated in training and seminars on courses related to the role and function organized by the Thai Institute of Directors Association. In addition, the Board of Directors has continuously participated in the Company's activities, for example, CSR, site visits to the Air Traffic Control Centers for better understanding of the Company's functions.

## The Orientation for the new Directors

The Company arranged the orientation for the new Directors with a provision of essential and responsibility related information in the form of documents, presentations and facility visits. The documents given to the new Directors were as follows:

1. The Board of Directors and Sub-Committee appointment letter.

2. The Company's information consisting of the booklet of the Company's memorandum of association, general information (Company background and status, shareholders, policies, vision, values, responsibilities in air navigation services and business units), organization chart, personnel, air transport situation and the Company's performance and financial statements, Corporate Plan, significant projects, relevant national and overseas organizations and the Company's Annual Report.

3. Board of Directors' handbook consisting of the names of the Board Of Directors and its composition, their authorization, duties and terms. Board meeting and its allowances, Sub-Committees and their authorization and duties, information of independent directors, the evaluation, the application to become member airlines, agreement between the Ministry of Transport and the Company, the asset account submission under the Organic Act on Anti-Corruption B.E. 2542 and relevant laws, regulations and the Act including a booklet of information system application for the Board of Directors.

## Connected Transactions of the Board of Directors with the Company

In the fiscal year 2017 the Company reported that the Board of Directors had no connected transactions. In addition, they did not hold any shares or held not more than 10 percent of all voting shares of the Company.

## AUTHORIZED DIRECTORS

In the fiscal year 2017 the Authorized Directors of the Company included 5 Authorized Directors, two out of the following four Authorized Directors could cosign and affix the Company seal to bind the Company. There were changes during the year:

1 October 2016 – 5 January 2017 as follows:

- 1. Air Chief Marshal (Retd) Itthaporn Subhawong
- 2. Mr. Prasit Suebchana
- 3. Mr. Puttipong Prasarttong-Osoth
- 4. Mrs. Sarinee Angsusingha

# 6 January 2017 – 30 September 2017 as follows:

| 1. | General Kanit            | Sapitaks          |
|----|--------------------------|-------------------|
| 2. | Mr. Prasit               | Suebchana         |
| 3. | Mr. Puttipong            | Prasarttong-Osoth |
| 4. | Flight Lieutenant Werasa | k Wiroonpetch     |
|    |                          |                   |

5. Mrs. Sarinee Angsusingha

## THE SECRETARY TO THE BOARD OF DIRECTORS

| 1. Mrs. Sarinee                                | Angsusingha        | Secretary President |  |  |
|--|--------------------|---------------------|--|--|
| 2. Miss. Waraporn                              | Songcharoen        | Assistant Secretary |  |  |
| Vice President (Of                             | fice of President) |                     |  |  |
| 3. Mr. Sukluer                                 | Chiawarcheep       | Assistant Secretary |  |  |
| Vice President (Office of President)           |                    |                     |  |  |
| 4. Mrs. Thaniya                                | Suntharasantic     | Assistant Secretary |  |  |
| Senior Director, Finance and Accounting Bureau |                    |                     |  |  |

## The Board of Directors' Attendance

In the Fiscal Year 2017, the Board of Directors held Twelfth meetings with attendance details as follows:

| Name  | Number of   |
|---|-------------|
|   | Attendances |
| Air Chief Marshal (Retired) Itthaporn             | 3/3         |
| Subhawong <sup>1/</sup>                           |             |
| General Kanit Sapitaks <sup>2/</sup>              | 12/12       |
| Mr. Prasit Suebchana <sup>3/</sup>                | 10/10       |
| Air Chief Marshal Siwakiat Jayema 4/              | 5/5         |
| Mr. Krichthep Simlee <sup>5/</sup>                | 5/8         |
| Mr. Puttipong Prasarttong-Osoth <sup>5/</sup>     | 8/12        |
| FLT LT.Werasak Wiroonpetch <sup>6/</sup>          | 11/11       |
| Mrs.Phongsaward Guyaroonsuith <sup>7/</sup>       | 9/11        |
| POL.GEN Dechnarong Sutticharnbancha <sup>8/</sup> | 6/9         |
| POL.MAJ.GEN.Surachate Hakparn <sup>9/</sup>       | 6/11        |
| COL.Peerawat Promkladpanao <sup>10/</sup>         | 12/12       |
| Mrs. Sarinee Angsusingha <sup>11/</sup>           | 12/12       |
| Mr. Chaicharearn Atibaedya <sup>12/</sup>         | 3/3         |

(The absent attendees had overseas engagements.)

- Appointed on 15 August 201 and retired on 6 January 2017
- Appointed as the Directors and Vice Chairman on 15
   August 2014 and 18 August 2014 and resigned on 18
   April 2014 and appointed as the Chairman on 23
   January 2017
- 3/ Appointed as the Directors on 25 January 2016 appointed as the Vice Chairman on 30 January 2017 and retired on 30 September 2017
- 4/ Appointed as the Directors on 30 April 2017
- 5/ Appointed as the Directors on 30 January 2017
- 6/ Appointed on 18 April 2012 and resigned on 28 January 2015 and reappointed on 17 March 2015
- 7/ Appointed on 31 October 2016 and retired 30 September 2017
- 8/ Appointed as the Directors on 31 October 2016
- 9/ Appointed as the Directors on 23 January 2017
- 10/ Appointed on 31 October 2016 and resigned on 23 January 2017 and reappointed on that day
- 11/ Appointed on 15 August 2014 and resigned on 23 January 2016 and reappointed on that day
- 12/ Appointed on 15 August 2014 and resigned on 27 January 2016 and reappointed on that day
- 13/ Appointed on 15 August 2014 and resigned on 22 January 2017

## The Executive Committee

The Executive Committee consists of not less than three members and not more than five members. In the fiscal year 2017 the Executive Committee on the pending changes between years as follows:

- From October 1, 2016 January 29, 2016 consisted of:
  - 1. Mr. Prasit Suebchana Chairman
  - 2. Mr. Puttipong Prasarttong-Osoth Member
  - 3. Flight Lieutenant Werasak Wiroonpetch Member
  - 4. Mrs. Phongsaward Guyaroonsuith Member
  - 5. Mrs. Sarinee Angsusingha Member and Secretary
  - 6. Miss Waraporn Songcharoen Assistant Secretary

| 7. | Mr.Sukluer   | Chiawarcheep   | Assistant Secretary |
|----|--------------|----------------|---------------------|
| 8. | Mrs. Thaniya | Suntharasantic | Assistant Secretary |

From January 30, 2017 - September 30, 2017 consisted of:

| 1. | Mr. Krichthep | Simlee | Chairman |
|----|---------------|--------|----------|
|    |               |        |          |

- 2. Mr. Puttipong Prasarttong-Osoth Member
- 3. Flight Lieutenant Werasak Wiroonpetch Member
- 4. Mrs. Phongsaward Guyaroonsuith Member
- 5. Mrs. Sarinee Angsusingha Member and Secretary
  - 6. Miss Waraporn Songcharoen

Assistant Secretary

Chiawarcheep Assistant Secretary

8. Mrs. Thaniya Suntharasantic

Assistant Secretary

## **Responsibilities**

The Executive Committee is appointed according to Article 42 fourth paragraph of the Company's Articles of Association which stipulates that "In order to facilitate and expedite the conduct of the Company and to supervise the management of the Company more closely. The Board of Directors shall set up an Executive Committee of not less than three or more than five people.

# The Executive Committee's Attendance

7. Mr.Sukluer

In the fiscal year 2017, the Executive Committee held twelve meetings with attendance details as follows:

| Name  | Number of<br>Attendances |
|---|--------------------------|
| Mr. Prasit Suebchana <sup>1/</sup>            | 4/4                      |
| Mr. Krichthep Simlee <sup>2/</sup>            | 8/8                      |
| Mr. Puttipong Prasarttong-Osoth <sup>3/</sup> | 10/12                    |
| Flt Lieutenant Werasak Wiroonpetch4/          | 11/11                    |
| Mrs. Phongsaward Guyaroonsuith <sup>5/</sup>  | 6/11                     |
| Mrs. Sarinee Angsusingha <sup>6/</sup>        | 12/12                    |

(The absent attendees had overseas engagements.)

| <u>Remarks</u> : | 1/ | Appointed as the Directors on 25 January  |  |
|------------------|----|---|--|
|                  |    | 2016 and appointed as Vice Chairman on 30 |  |
|                  |    | January 2017 retired on 30 September 2017 |  |

- 2/ Appointed as the Directors on 30 January 2017
- 3/ Appointed as the Directors on 18 April 2012 and resigned on 28 January 2015 and reappointed on 17 March 2015
- 4/ Appointed as the Directors on 31 October 2016 and retired on 30 September 2017
- 5/ Appointed as the Directors on 31 October 2016
- 6/ Appointed as the Directors on 15 August 2014 and resigned on 27 January 2016 and reappointed on that day

## The Audit Committee

In the fiscal year 2017 the Audit Committee. There are changes during the year as follows:

| - From October 1, 2016 – January 19, 2017                  |   |              |  |  |
|--|---|--------------|--|--|
| 1. Ge  | eneral Kanit Sapitaks                     | Chairman     |  |  |
| 2. Mr  | . Chaicharearn Atibaedya                  | Member       |  |  |
| 3. Co  | olonel Peerawat Promkladpanao             | Member       |  |  |
| 4. Vic   | e President (Office of Internal Audi      | t) Secretary |  |  |
| 5. Senior Director, Core Business and Information          |   |              |  |  |
| Technology Audit Bureau Assistant Secretary                |   |              |  |  |
| 6. Sei   | 6. Senior Director, Support and           |              |  |  |
| Plannii  | Planning Audit Bureau Assistant Secretary |              |  |  |
| <u>Remarks</u> :   |   |              |  |  |
| 1/Retired on 2   | 22 January 2017                           |              |  |  |
| - From January 30, 2017 – September 30, 2017 Consisted of: |   |              |  |  |
| 1. Pol.GEN.Dechnarong Sutticharnbancha Chairman            |   |              |  |  |

- 2. Pol.MAJ.GEN.Surachate Hakparn Member
- 3. Colonel Peerawat Promkladpanao Member
- Vice President (Office of Internal Audit) Secretary
- 4. Senior Director, Core Business and Information
   Technology Audit Bureau
   Assistant Secretary
   Senior Director, Support and
- 5. Senior Director, Support and<br/>Planning Audit BureauAssistant Secretary

## **Responsibilities**

- 1. Report on validity of financial statements and management reports.
- 2. Report on the efficiency, effectiveness and cost control schemes of the Company's operations.
- 3. Report on conflicts of interest and related matters.
- Report on compliance with rules, regulations, Cabinet Resolutions and policies set by the State Enterprises Board of Directors.

## The Risk Management Committee

In the fiscal year 2017 the Risk Management Committee. There were changes during the year as follows:

- From October 1, 2016 - October 30, 2016 consisted of:

- 1 Mr. Puttipong Prasarttong-Osoth Chairman
- 2. Mr. Wanchart Santikunchorn <sup>1/</sup> Member
- 3. Mr. Pongsak Somchai Member
- 4. Mrs. Sarinee Angsusingha Member
- 4. MIS. Salifiee Angsusingria Meriber
- 5. Vice President (Office of Policy and Strategy) Secretary
- 6. Senior Director, Policy and StrategyManagement BureauAssistant Secretary

# Remarks:

- 1/ Resigned on 26 May 2016
- 2/ Resigned on 30 September 2016
- From October 31, 2016 January 29, 2017 consisted of:
  - 1 Flt. Lieutenant Werasak Wiroonpetch Chairman
  - 2 Mrs. Phongsaward Guyaroonsuith Member
  - 3 Pol.MAJ.GEN.Surachate Hakparn Member
  - 4 Mrs. Sarinee Angsusingha Member
  - 5. Vice President (Office of Policy and Strategy) Secretary
  - 6. Senior Director, Policy and Strategy<br/>Management BureauAssistant Secretary

- From 30 January, 2017 – September 30, 2017 consisted of:

| 1.   | Flt. Lieutenant We    | erasak Wiroonpetch        |       | Chairman       |
|------|-----------------------|---------------------------|-------|----------------|
| 2.   | Mrs. Phongsaward      | Guyaroonsuith             |       | Member         |
| 3.   | Mrs. Sarinee          | Angsusingha               |       | Member         |
| 4. \ | /ice President (Offic | ce of Policy and Strategy | )     | Secretary      |
| 5. 9 | Senior Director, Pol  | icy and Strategy          |       |                |
| Ν    | Management Burea      | u                         | Assis | tant Secretary |
|      |                       |                           |       |                |

### **Responsibilities**

The Risk Management Committee considers all aspects or situations that might pose a risk to or otherwise affect the Company. The Committee has to evaluate such situations and determine policy to eliminate and/or reduce the risk. The Management and staff then have to follow such policy.

#### The Remuneration Committee

In the fiscal year 2017, the Remuneration Committee consisted of:

- 1. Mr. Puttipong Prasarttong-Osoth Chairman
- 2. Mr. Chaicharearn Atibaedya
- 3. Colonel Peerawat Promkladpanao Member
- 4. Vice President (Human Resource) Secretary
- 5. Senior Director, Human Resource and Quality of Work Life Bureau Assistant Secretary

Remarks: 1/ Resigned as the Directors on 22 January 2017

- From October 1, 2016 - January 29, 2017 consisted of:

- 1. Mr. Puttipong Prasarttong-Osoth Chairman
  - 2. Flt. Lieutenant Werasak Wiroonpetch Member
- 3. Mrs. PhongsawardGuyaroonsuith Member
- 4. Colonel Peerawat Promkladpanao Member
- 5. Vice President (Human Resource) Secretary
- 6. Senior Director, Human Resource and

Quality of Work Life Bureau

Assistant Secretary

Member

## **Responsibilities**

- 1. To establish the benefits, remuneration rate and evaluation criteria of the President.
- 2. To consider the evaluation standards of the President's performance.
- 3. To give the policy or make an approval of remuneration and benefit packages of Management appropriately.
- 4. To propose the President's evaluation for the Board of Directors' approval.
- 5. To perform the relevant matters as assigned by the Board of Directors.

## The Corporate Governance and Corporate Social Responsibility Committee

In the fiscal year 2017 the Corporate Governance and Corporate Social Responsibility Committee. There are changes during the year as follows:

- From October 1, 2016 - October 30, 2016 consisted of:

| 1. Air Chief Marshal (Retd) I            | Chairman                    |                     |  |  |
|--|-----------------------------|---------------------|--|--|
| 2. General Kanit                         | Sapitaks                    | Member              |  |  |
| 3. Mr. Prasit                            | Suebchana                   | Member              |  |  |
| 4. Mr. Puttipong                         | Prasarttong-Osoth           | Member              |  |  |
| 5. Mr. Wanchart                          | Santikunchorn <sup>1/</sup> | Member              |  |  |
| 6. Mr. Chaicharearn                      | Atibaedya                   | Member              |  |  |
| 7. Colonel Peerawat Promkladpanao Member |                             |                     |  |  |
| 8. Pol.MAJ.GEN.Surachate                 | Hakparn                     | Member              |  |  |
| 9. Mrs. Sarinee                          | Angsusingha                 | Member              |  |  |
| 10. Vice President (Office o             | Secretary                   |                     |  |  |
| 11. Mr. Marnoch                          | Sawatdee                    | Assistant Secretary |  |  |

## Remarks:

- 1/ Resigned on 5 January 2017
- 2/ Resigned on 26 May 2016
- 3/ Retired on 22 January 2017
- 4/ Resigned on 30 September 2016

- From October 31, 2016 - January 29, 2017 consisted of:

- 1. Air Chief Marshal (Retired) Itthaporn SubhawongChairman
- 2. General KanitSapitaksMember3. Mr. PrasitSuebchanaMember4. Mr. PuttipongPrasarttong-OsothMember
- 5. Flt. Lieutenant Werasak Wiroonpetch Member

| 6. Mrs. Phongsaward        | Guyaroonsuith | Member              |
|----------------------------|---------------|---------------------|
| 7. Mr. Chaicharearn        | Atibaedya     | Member              |
| 8. Colonel Peerawat        | Promkladpanao | Member              |
| 8. Mr. Pongsak             | Somchai       | Member              |
| 9. Mrs. Sarinee            | Angsusingha   | Member              |
| 10. Vice President (Office | of President) | Secretary           |
| 11. Miss. Putawan          |               | Assistant Secretary |
|                            |               |                     |

# Remarks:

- 1/ Resigned on 5 January 2017
- 2/ Retired on 22 January 2017

- From January 30, 2017 – April 29, 2017 consisted of:

| 1. General Kanit                         | Sapitaks            | Chairman  |
|--|---------------------|-----------|
| 2. Mr. Prasit                            | Suebchana           | Member    |
| 3. Mr. Krichthep                         | Simlee              | Member    |
| 4. Mr. Puttipong                         | Prasarttong-Osoth   | Member    |
| 5. Flt. Lieutenant Werasa                | k Wiroonpetch       | Member    |
| 6. Mrs. Phongsaward                      | Guyaroonsuith       | Member    |
| 7. Pol.GEN.Dechnarong S                  | utticharnbancha     | Member    |
| 8. Pol.MAJ.GEN.Surachate Hakparn         |                     | Member    |
| 9. Colonel Peerawat                      | Promkladpanao       | Member    |
| 10. Mrs. Sarinee Angsusingha             |                     | Member    |
| 11. Vice President (Office of President) |                     | Secretary |
| 12. Miss. Putawan                        | Assistant Secretary |           |

# - From April 30, 2017 – September 30, 2017 consisted of:

| 1. General Kanit           | Sapitaks          | Chairman  |
|----------------------------|-------------------|-----------|
| 2. Mr. Prasit              | Suebchana         | Member    |
| 3. Air Chief Marshal       | Siwakiat Jayema   | Member    |
| 4. Mr. Krichthep           | Simlee            | Member    |
| 5. Mr. Puttipong           | Prasarttong-Osoth | Member    |
| 6. Flt. Lieutenant Werasa  | k Wiroonpetch     | Member    |
| 7. Mrs. Phongsaward        | Guyaroonsuith     | Member    |
| 8. Pol.GEN.Dechnarong S    | utticharnbancha   | Member    |
| 9. Pol.MAJ.GEN.Surachate   | e Hakparn         | Member    |
| 10. Colonel Peerawat       | Promkladpanao     | Member    |
| 11. Mrs. Sarinee Angsus    | singha            | Member    |
| 12. Vice President (Office | of President)     | Secretary |
|                            |                   |           |

- 13. Miss. Putawan Noirod
- 14. Mr. Marnoch
- 1/ Resigned on 27 June 2017
- 2/ Appointed on 28 June 2017

#### **Responsibilities**

To set the Corporate Governance and Corporate Social Responsibility policy and practices, pre-consider and give the suggestion, report on compliance with the Corporate Governance and Corporate Social Responsibility Plan including monitoring and evaluating the Corporate Governance and Corporate Social Responsibility practices.

## The Legal Committee

In the fiscal year 2017, the Legal Committee consisted of:

| 1. Mrs. Phongsaward (                             | Chairman           |                     |
|---|--------------------|---------------------|
| 2. Miss Chunhachit                                | Sungmai            | Member              |
| 3. Miss Nathsinee                                 | Yuttidhammadamrong | Member              |
| 4. Mrs. Sarinee                                   | Angsusingha        | Member              |
| 5. Dr. Abhijai                                    | Chandrasen         | Legal Advisor       |
| 6. Vice President (Offic                          | Secretary          |                     |
| 7. Senior Director, General Administration Bureau |                    | Assistant Secretary |
|   |                    |                     |

## **Responsibilities**

To consider and give suggestions regarding Laws, regulations and contracts as assigned by the Company or the Board of Directors.

#### The Dependent Committee

In the fiscal year 2017, the Dependent Committee. There were changes during the year as follows:

#### - From October 1, 2016 - October 30, 2016 consisted of:

- 1. Air Chief Marshal (Retired) Itthaporn SubhawongChairman
- 2. General KanitSapitaksMember3. Mrs. PhongsawardGuyaroonsuithMember4. Mr. ChaicharearnAtibaedyaMember5. Colonel PeerawatPromkladpanaoMember

#### Remarks:

1/ Retired on 22 January 2017

|  | - From October 31 | . 2016 – January 29 | , 2017 consisted of: |
|--|-------------------|---------------------|----------------------|
|--|-------------------|---------------------|----------------------|

| 1. General Kanit         | Sapitaks         | Chairman |
|--------------------------|------------------|----------|
| 2. Mrs. Phongsaward      | Guyaroonsuith    | Member   |
| 3. Pol.GEN.Dechnarong    | Sutticharnbancha | Member   |
| 4. Pol.MAJ.GEN.Surachate | Hakparn          | Member   |
| 5. Colonel Peerawat      | Promkladpanao    | Member   |

- From January 30, 2017 - September 30, 2017 consisted of:

| 1. General Kanit             | Sapitaks         | Chairman |
|------------------------------|------------------|----------|
| 2. Air Chief Marshal Siwakia | at Jayema        | Member   |
| 3. Mrs. Phongsaward          | Guyaroonsuith    | Member   |
| 4. Pol.GEN.Dechnarong        | Sutticharnbancha | Member   |
| 5. Pol.MAJ.GEN.Surachate     | Hakparn          | Member   |
| 6. Colonel Peerawat          | Promkladpanao    | Member   |

The Independent Directors have performed their duty in line with a principle of "Independence" which is defined as, a key to fostering the Directors' responsibilities. A certain number of the Independent Directors should be comprised of the Board of Directors and they can make suggestions or reports with consideration of their duties and responsibilities independently and justly without direct or indirect benefits or advantages in that case and without considering any benefits relating to properties or positions. In addition, the Independent Directors are not under any influence from people, groups or situations that would result in the Company and shareholders incurring damage or loss of appropriate benefits due to act or omission of act.

The Independent Directors will have the freedom to meet every year in the fiscal year 2016 /2017 and to attend The Board of Directors Meeting twice.

## Remuneration Rate for the Board of Directors and Committees

The Company is a state enterprise that has to abide by the Cabinet's resolution regarding remuneration of the Board of Directors, which includes a fixed amount of remuneration, meeting remuneration and si forth as set out by the Ministry of Finance. Remuneration Rate for the Board of Directors and Committee Divided into Groups in the Fiscal Year 2017

| No. | Committee                       | Total (Baht) |
|-----|---------------------------------|--------------|
| 1.  | The Board of Directors          | 1,198,750.00 |
| 2.  | The Executive Committee         | 640,000.00   |
| 3.  | The Audit Committee             | 387,096.00   |
| 4.  | The Risk Management Committee   | 320,000.00   |
| 5.  | The Remuneration Committee      | 107,500.00   |
| 6.  | The Corporate Governance and    | 707,500.00   |
|     | Corporate Social Responsibility |              |
| 7.  | The Legal Committee             | 112,000.00   |
|     | Total                           | 3,472,846.00 |

Remuneration Rate for the Board of Directors and Committee Divided individually In the Fiscal Year 2017

| No. | Co   | mmittee                               | Total (Baht) |
|-----|--|---------------------------------------|--------------|
| 1   | General Kanit                              | Sapitaks                              | 529,153.00   |
| 2   | Mr. Prasit                                 | Suebchana                             | 410,000.00   |
| 3   | Air Chief Marshal Siw                      | vakiat Jayema                         | 135,333.33   |
| 4   | Mr. Krichthep                              | Simlee                                | 300,645.00   |
| 5   | Mr. Puttipong                              | Prasarttong-Osoth                     | 400,000.00   |
| 6   | Flight Lieutenant We                       | erasak Wiroonpetch                    | 457,500.00   |
| 7   | Mrs. Phongsaward                           | Guyaroonsuith                         | 410,000.00   |
| 8   | Police General Dechnarong Sutticharnbancha |                                       | 292,903.00   |
| 9   | Police Major Genera                        | l Surachate Hakparn                   | 320,000.00   |
| 10  | Colonel Peerawat                           | Promkladpanao                         | 500,000.00   |
| 11  | Mrs. Sarinee                               | Angsusingha                           | 480,000.00   |
| 12  | Mr. Apichait                               | Chantharasen                          | 255,000.00   |
| 13  | Ms. Nathsinee                              | Yutdhammadamrong                      | 15,000.00    |
| 14  | Ms. Chunhachit                             | Sungmai                               | 12,000.00    |
| 15  | Air Chief Marshal(Ret                      | td) Itthaporn Subhawong <sup>2/</sup> | 136,290.00   |
| 16  | Mr. Chaicharearn                           | Atibaedya <sup>3/</sup>               | 154,192.00   |
|     | Tota                                       | ıl                                    | 4,808,016.33 |

## <u>Remarks</u>

<sup>1/</sup> Remuneration consists of fixed compensation and allowances

<sup>2/</sup> Retired on 6 January 2017

<sup>3/</sup> Retired on 22 January 2017

The Labor Relations Committee

In the Fiscal Year 2017 the Labor Relations Committee consisted of:

|                                 |            | Number of |
|---------------------------------|------------|-----------|
|                                 |            | meeting   |
| 1. MRS. SARINEE ANGSUSINGHA     | Chairman   | 12/12     |
| 2. MRS. ONURAI KOMAIN           | Member     | 12/12     |
| 3. MRS. SIRIKES NIEMLOY         | "          | 9/12      |
| 4. MR. CHANNARONG CHUACHAROEN   | "          | 9/12      |
| 5. MR. WARAVUT RAPHIPHAN        | "          | 6/12      |
| 6. MR. SUKLUER CHIAWARCHEEP     | "          | 12/12     |
| 7. MISS WARAPORN SONGCHAROEN    | "          | 10/12     |
| 8. MRS. CHIDKAMOL SOONTHORNSIT  | "          | 12/12     |
| 9. MR. CHANA TADTASAI           | "          | 11/12     |
| 10. MRS.KLEAWTHONG LAPTHANANON  | Member and | 12/12     |
|                                 | Secretary  |           |
| 11. MR. PARINYA THIENTHONG      | Member     | 12/12     |
| 12. MR. SUKIT KLINHOM           | "          | 12/12     |
| 13. MR. MATEE KHAMHAENG         | "          | 11/12     |
| 14. MR. NIRUT PUTTSTIT          | "          | 10/12     |
| 15. MRS. KASAMAPORN SAWATDICHAI | "          | 11/12     |
| 16. MR. KANT TEEKANUNTAPORN     | "          | 9/12      |
| 17. MR. SANGSITH PRASOMTHONG    | "          | 12/12     |
| 18. MR. SUDKHATE WIENGSRI       | "          | 9/12      |
| 19. MR. SAPOL SINGHADARA        | "          | 11/12     |

# Remark:

Order 14, 16 and 18 Appointed as of December 2017

| Fiscal | Number | Salary and Other      |
|--------|--------|-----------------------|
| Year   |        | Income (million baht) |
| 2017   | 5      | 31.68                 |
| 2016   | 5      | 30.24                 |
| 2015   | 5      | 25.88                 |

## Remuneration Rate for the Executive Management in the Fiscal Years 2015-2017

## Remark :

Other income was Position Allowance, License, Vehicle Allowance and Annual Rewards

## Conflict of Interests Policy

The Company sets a policy to disclose the information to prevent conflict of interests between the staff and the Company in order to prevent any activities which may cause conflict or illegal and unsuitable activities. This will resume disadvantage or disrupt the efficient operation of the Company. If any of the staff have any connection with this item, he/she has to inform the Company of such connection.

The Company announced conflict of interests covering the Constitution on the Prevention and Suppression of Corruption, B.E. 2542 Act and announcement of the National Prevention and Suppression of Corruption Committee on Principle for receiving of Property or any other Benefits by Government Officials, B.E. 2543 to prevent conflict of interests of the Company.

The Company's Policy on prevention of conflict of interests requires all staff and management to certify their conflict of interests to the Company on a yearly basis so that they will realize that they have declared their transparency to the Company. The said declaration has to be acknowledged by their superiors.

# THE AUDIT COMMITTEE'S PERFORMANCE REPORT OF AERONAUTICAL RADIO OF THAILAND LTD. FOR THE FISCAL YEAR 2017

In the fiscal year 2017 the Audit Committee of Aeronautical Radio of Thailand Ltd. was as follows:

1. During 1 October 2016 – 31 January 2017, members of the Audit Committee consisted of

| 1.1 General Kanit Sapitaks          | Chairman |
|-------------------------------------|----------|
| 1.2 Mr. Chaicharearn Atibaedya      | Member   |
| 1.3 Colonel Peerawat Promkladpanao. | Member   |

2. During 1 February 2017 - present, members of the Audit Committee consisted of

| 2.1 Police General Dechnarong Sutticharnbancha | Chairman |
|--|----------|
| 2.2 Police Major General Surachate Hakparn     | Member   |
| 2.3 Colonel Peerawat Promkladpanao.            | Member   |

The Audit Committee performed their duties as assigned by the Board of Directors, the Audit Committee Charter and the Audit Committee of State Enterprise under the Ministry of Finance Practice Handbook. In the fiscal year 2017, the Audit Committee held eight meetings which were attended by the senior management, Chief Audit Executive, and the management of Office of Internal Audit. The Audit Committee also held one special meeting with the officers from the Office of the Auditor General to confer about the independence in performing their duties and comments. Major matters could be summarized as follows:

- To verify the financial report for its accountability, make reports of the implementation projects with respect to efficiency, effectiveness and economics measures, report on conflicts of interest and report on activities in accordance with related rules, regulations, Cabinet Resolutions, and policies set by the Board of Directors.
- 2. To review the efficiency and the effectiveness of the Company's Internal Controls, Risk Management and Good Corporate Governance by receiving internal audit reports and the internal audit group's practice report regularly. In

addition the Committee has followed up the results of the control self assessment in accordance with Internal Control Standard 2001.

- 3. To review the Independence of Internal Auditor group and the audit practices to ensure compliance with regulations and best practice determined by the Ministry of Finance. To monitor for the measures taken to follow the recommendations after each audit to ensure that the corporate has appropriate internal control and to prevent or reduce any risk that might occur.
- 4. To review the Audit Committee Charter, key performance index with a result of 3.98 out of 4.00 points and determine the planned agenda. The Committee also conducted self assessment and the Audit Committee's performance with a result of 3.80 out of 4.00 points.
- 5. To supervise internal audit practices by approving the internal audit charter, Practice Handbook, key performance index, the five years strategic internal audit implementation plan and the annual internal audit implementation plan for the fiscal year 2018. To agree to the budget for the fiscal year 2018. To appraise the Chief Audit Executive, Experts, Senior Director Level, Experts, Director Level and Internal Audit officers for their performance in the fiscal year 2017. To review the office of Internal Audit's training plan and resources for the fiscal year 2018. To follow up on the progress of the internal audit implementation plan and review internal audit group annual report for the fiscal year 2017.
  - 1. The quarterly review and annual financial statements audit fees of the Company were Baht 1,760,000.

After performing their duties and responsibilities delegated by the Board of Directors, the Audit Committee certified that the financial report truly and fairly reflected the Company's financial status and operating results in accordance with generally accepted accounting standards.

In conclusion, the Company has operated in accordance with appropriate internal control measurements, rules, regulations, Cabinet resolutions and policies set by the Board of Directors. The Company has adequate risk management control. The Internal audit practice complies with the principles of best practice under the Ministry of Finance. There were no issues relating to conflicts of interest. The written reports of the Audit Committee were submitted to the Board of Directors on a regular basis. The Audit Committee's suggestions and guidelines were considered by the Company to improve operations and enhance effectiveness.

Police General .....

(Dechnarong Sutticharnbancha) Chairman of the Audit Committee

## Internal Audit

The office of Internal Audit is responsible for providing independent and fair assurance and consulting services in accordance with professional audit standards. The audit operation is to ensure that business processes are properly equipped with corporate governance, risk management, and internal controls in supporting of Aeronautical Radio of Thailand's objectives. The office is also tasked with providing the Audit Committee and senior executives with recommendations and guidelines on how to achieve efficiency and effective operation results.

The 5 year Strategic Audit Plan (2018 – 2022) and Audit Plan for the fiscal year 2018 have set out the audit activities that combine the mission of the Aeronautical Radio of Thailand's strategic plan and risk management. The opinions of the Audit Committee, the office of the Auditor General of Thailand, senior executives and stakeholders have been taken to consideration.

The internal audit operations cover the reliability of the organization's financial statements, the compliance to the laws, regulations, policies, related instructions, and the working systems that influence general operation. The office is working to report on proper asset monitoring and also focusing on the internal control based on the COSO principle. The effective internal control system which has been sufficiently reviewed and assessed is be able to hinder any corruption activities in the organization.

#### The Internal Audit Office's Auditors:

The Internal Audit Office pro-actively helps internal auditors continuously acquire knowledge and skills to improve their ability to perform duties in accordance with internal audit professional code of ethics. Each person must attend at least 40 hours training per year. Currently, internal auditors received Certified Internal Auditor (CIA), Certified Information Systems Auditor (CISA), Certified Ethical Hacker (CEH), Certified Public Accountant (CPA), Certified Professional Internal Auditor (CPIAT) and Certified Professional Internal Auditor (CPIA) designations.

#### Internal Auditor's Quality Control:

The audit quality will be reviewed by the senior auditors while work satisfaction will be rated by the yearly internal auditor's self assessment and the auditees. The suggestions from the Assessment have been taken into consideration to continuously improve audit operations.

#### Duties and responsibilities of the Office of Internal Audit

The Office of Internal Audit performs its activities in accordance with the international standards for the professional practice of internal auditing (IIA Standards), the Ministry of Finance regularity of the state enterprise's audit committee and internal audit and the state enterprise's internal audit handbook. The internal audit operates its activities with a focus on efficiency, effectiveness, accountability and safety of organization's information technology. It also carries out its engagement with respect to the credibility of financial reports, stewardship of properties, compliance with legislation, regulations, policies and Cabinet resolutions and respect to the effectiveness of internal control, risk management and good governance.

#### Attribute of Internal Auditors

Internal auditors have appropriately developed the knowledge, competencies and other skills needed to perform their individual responsibilities. Internal auditors require the professional proficiency to effectively carry out their professional responsibilities which are expected to apply and uphold the following principles: integrity, objectivity, confidentiality and competency.

Internal auditors have developed the professional proficiency by attaining related training courses for at least 40 hours per year excluding self learning.

Currently, internal auditors have obtained 4 professional certifications and qualifications as following: Certified Internal Auditor (CIA), Certified Professional Internal Auditors (CPIA), Certified Public Auditors of Thailand (CPIAT) and Certified Public Accountant (CPA).

#### Organization

The Office of Internal Audit reports its engagement results to the Audit Committee and the President. The internal audit charter clearly assigns missions, scopes, responsibilities, independence, objectivity, duties and authority, which communicates to all staff in the organization. Internal auditors perform independent engagements and must confirm the organizational independence and the disclosure of conflicts of interest before performing engagements.

#### Relationship with the Management

The organization executives participate in the comments regarding yearly audit plans and strategic audit plans. They also take part in planning internal audit performing, especially internal audit duration, except in the case of un-notified internal audit activity. The Management is responsible for improving internal control in accordance with recommendations in internal audit reports which conclude together with closed meetings

#### Procedures and Reporting

The role of the Office of Internal Auditing is to support the Audit Committee's tasks in reporting internal audit reports, quarterly progress reports according to defined audit plans. Reporting must also include significant internal audit findings, appropriated issues and follow Audit Committee recommendations.

#### Internal Audit Quality Assurance

In the fiscal year 2015, the Office of Internal Audit provided independent internal audit quality assurance through external consultants. The overall result has shown that the internal audit activity conforms to the International Standards for the Professional Practice of Internal Auditing (IIA Standards) and the guidance of state enterprise internal audits handbook. There are recommendations for improvement which have been conducted to improve quality in internal audit procedures.

## Financial Report

## 1. <u>Report of the Board of Directors' responsibility to the financial statements</u>

The Company's Financial Report was arranged under the approval of the Company's Board of Directors to reflect the Company's financial status together with annual operating performance in accordance with generally accepted accounting standards.

The Company's Board of Directors was well aware of the responsibility to prepare and arrange the Financial Report that presented the Company's annual financial status and operating performance in compliance with generally accepted accounting standards as well as their responsibility to provide financial information, which was presented in the 2017 Annual Report. Thus, appropriate accounting principles have been applied on a consistent basis with due consideration of optimal estimation in preparing the Company's financial statements. All significant information was sufficiently disclosed in the notes on the Company's Financial Statements for the benefits of the Company's shareholders and stakeholders.

In addition, the Company's Board of Directors has deployed and maintained effective systems of risk management and internal controls which provided reasonable assurance that the Company's accounting records were accurate, complete and sufficient to protect the assets of the Company as well as prevent fraud or other material irregular activities.

The Company's Board of Directors monitored the preparation of financial reports by appointing the Audit Committee to oversee the quality of the Company's financial reports and internal control systems. The Audit Committee's opinion regarding such matters was disclosed in this Annual Report under the Audit Committee's Report.

In the Board of Directors' opinion, the Company's internal control systems were satisfactory and could assure the reliability of the Company's financial statements in compliance with generally accepted accounting standards, legal requirements and other associated regulations.

# 2. Summary of Financial Report

|  | 2017          | 2016      | 2015      |
|--|---------------|-----------|-----------|
| Operating Performance (Baht : Million) <sup>1/</sup>     |               |           |           |
| Total Income   | 12,194.11     | 11,638.93 | 10,773.38 |
| Total Expenditure  | 10,193.64     | 9,276.06  | 8,863.97  |
| Overcollection to be rebated to Member Airlines          |               |           |           |
|  | 2,000.47      | 2,362.87  | 1,909.41  |
| Note: 1/ Separate Financial Statements of the Company    |               |           |           |
|  |               |           |           |
| Financial Status (Baht : Million) <sup>2/</sup>          |               |           |           |
| Total Assets   | 14,428.62     | 13,385.61 | 12,089.96 |
| Total Liabilities  | 13,463.86     | 12,465.33 | 11,200.73 |
| Total Shareholders' Equity                               | 964.76        | 920.28    | 889.23    |
| Financial Ratio  |               |           |           |
| Debt-to-Equity Ratio (times)                             | 13.96         | 13.55     | 12.60     |
| Debt-to-Equity Ratio (times)                             | 6.31          | 7.19      | 8.25      |
| (Not including accumulated Overcollection)               |               |           |           |
| Fixed Charge Coverage Ratio (times)                      | 1.64          | 1.44      | 1.21      |
| Noto: 2/ Einancial statements of the Company and Staff V | Valfara Eurod |           |           |

Note: 2/ Financial statements of the Company and Staff Welfare Fund

# 3. The Company's Operation Analysis: Separate Financial Statements of the Company

The Company's total income in the Fiscal Year 2017 was over total expenditure with overcollection of Baht 2,000.47 Million, which will be accumulated and rebated to Member Airlines in the future.

| Unit: Million Bant                |                |           |                     | bant |
|-----------------------------------|----------------|-----------|---------------------|------|
| Itoms                             | have 2017 2016 | 2016      | Increase (Decrease) |      |
| Items 2017                        | 2017           | 2016      | Amount              | %    |
| Income                            |                |           |                     |      |
| Air Navigation Services           | 11,433.60      | 10,898.96 | 534.64              | 5    |
| Other Related Services            | 688.79         | 681.32    | 7.47                | 1    |
| Other Income                      | 71.72          | 58.65     | 13.07               | 22   |
| Total Income                      | 12,194.11      | 11,638.93 | 555.18              | 5    |
| Expenditure                       |                |           |                     |      |
| Operating Expenditure             | 10,155.21      | 9,209.72  | 945.49              | 10   |
| Finance Costs                     | 38.43          | 66.34     | (27.91)             | (42) |
| Total Expenditure                 | 10,193.64      | 9,276.06  | 917.58              | 10   |
| Overcollection to Member Airlines | 2,000.47       | 2,362.87  | (362.40)            | (15) |

## 3.1 Income Analysis

overfly flights of Member Airlines.

The Company's total income in the Fiscal Year 2017 was Baht 12,194.11 million. This was derived mainly from income from air navigation services of Baht 11,433.60 million or 94% of total income along with income from other related services including rental and maintenance of equipment, aeronautical telecommunications services, and work orders accounting for 6% of total income or Baht 688.79 million. In addition, income from other services was Baht 71.72 million. Actual income from air navigation services was Baht 11,433.60 million with an increase of Baht 534.64 million or 5% from the previous year. This was a result of air traffic growth by 4.8% as airlines increased the flights, mainly from domestic and

Income of Baht 688.79 million from other related services increased by 1% or Baht 7.47 million from the previous year, mainly from Airline Operational Control services (AOC). The other income of Baht 71.72 million increased by 22% or Baht 13.07 million from the previous year which derived from penalty in delayed delivery of work orders.

Unit: Million Baht

## 3.2 Expenditure Analysis

The Company's total expenditure in the Fiscal Year 2017 was Baht 10,193.64 million, of which Baht 7,592.85 million was accounted for employee benefits, Baht 2,562.36 million was other operating expenditure, and Baht 38.43 million was the finance cost. This year, the Company could save the operating expenditure of Baht 366.90 million with the cost control measures, which do not affect the core business and safety standards.

# 4. Financial Status Analysis - Financial statements of the Company and Staff Welfare Fund

## 4.1 Assets Analysis

The Company and Staff Welfare Fund's total assets as at 30 September 2017 were Baht 14,428.62 million, comprised of 44% current assets and 56% non-current assets, with the following details:

|                                |           |           | Unit: Million       | Baht |
|--------------------------------|-----------|-----------|---------------------|------|
|                                | 2017 2016 | 0017      | Increase (Decrease) |      |
| ltems                          |           | Amount    | %                   |      |
| Current Assets                 | 6,311.00  | 5,922.06  | 388.94              | 7    |
| Non-current Assets             |           |           |                     |      |
| - Long–Term Investments        | 10.10     | 10.10     | -                   | -    |
| - Long-Term Loans to Staff     | 2.92      | 4.27      | (1.35)              | (32) |
| - Buildings and Equipment -Net | 5,080.69  | 5,206.70  | (126.01)            | (2)  |
| - Intangible Assets            | 56.66     | 43.18     | 13.48               | 31   |
| - Assets under Construction    | 2,967.25  | 2,199.30  | 767.95              | 35   |
| Total                          | 14,428.62 | 13,385.61 | 1,043.01            | 8    |

In 2017, total assets increased by 8% or Baht 1,043.01 million from the previous year, mainly non-current assets increased due to the increase in assets under construction.

# 4.2 Liabilities Analysis

The Company and Staff Welfare Fund's total liabilities as at 30 September 2017 were Baht 13,463.86 million, comprised of 75% current liabilities and 25% non–current liabilities with the following details:

| Unit: Million Baht                 |           |           |                     |      |  |
|------------------------------------|-----------|-----------|---------------------|------|--|
|                                    |           | 0044      | Increase (Decrease) |      |  |
| Items                              | 2017 2016 |           | Amount              | %    |  |
| Current Liabilities                | 9,600.29  | 7,586.85  | 2,013.44            | 27   |  |
| Current Portion of Long-Term Loans | 543.03    | 542.03    | 1.00                | -    |  |
| Non-current Liabilities            |           |           |                     |      |  |
| - Children's Educational Support   | 0.11      | 0.11      | -                   | -    |  |
|                                    | 816.27    | 2,359.29  | (1,543.02)          | (65) |  |
| - Long-Term Loans                  | 2,504.16  | 1,977.05  | 527.11              | 27   |  |
| - Employee Benefits Obligations    |           |           |                     |      |  |
| Total                              | 13,463.86 | 12,465.33 | 998.53              | 8    |  |

In 2017 total liabilities increased by 8% or Baht 998.53 million from the previous year. The current liabilities were mainly the accumulated overcollection at Baht 7,379.19 million, comprised of the remaining accumulated overcollection in 2016 at Baht 5,849.29 million which had been paid for capital expenditure but still presented as liabilities to comply with Thai Accounting Standards (TAS), and the overcollection in 2017 at Baht 2,000.47 million.

The non-current liabilities were mainly employee benefits obligations and long-term loans from Government Savings Bank and Bank of Ayudhya Public Company Limited which were used for investment in various projects. The payments of principal and interest are scheduled every 6 months.

# 4.3 Shareholders' Equity Analysis

The Company and Staff Welfare Fund had the shareholders' equity as at 30 September 2017 at Baht 964.76 million with the following details:

| Unit: Million Baht                |        |        |                     |    |
|-----------------------------------|--------|--------|---------------------|----|
| lt en s                           | 2017   | 2016   | Increase (Decrease) |    |
| Items                             |        |        | Amount              | %  |
| Registered Ordinary Share Capital | 660.00 | 660.00 | -                   | -  |
| Staff Welfare Fund                | 304.76 | 260.28 | 44.48               | 17 |
| Total                             | 964.76 | 920.28 | 44.48               | 5  |

The capital structure as at 30 September 2017 comprised of total liabilities of Baht 13,463.86 million or 93% and shareholders' equity of Baht 964.76 million or 7%.

# 5. Cash Flow Analysis – Financial statements of the Company and Staff Welfare Fund

In the Fiscal Year 2017 the Company and Staff Welfare Fund had an ending balance of cash and cash equivalents as of 30th September 2017 of Baht 3,105.35 million, which increased from the beginning balance by Baht 444.28 million. Net cash provided by operating activities was mainly from over-collection and depreciation of the investment in fixed assets. Net cash used in investment activities was mainly used for project investments to support and enhance the capabilities of air navigation services. Additionally, net cash used in financing activities was mostly for prepayment of long-term loans to Bank of Ayudhya Public Company Limited for the amount of Baht 1,000 million and the repayment of a long-term loan due within one year at the amount of Bath 542.03 million.

| Unit: Million Baht                                  |            |            | on Baht    |
|---|------------|------------|------------|
| ltoms   | 2017       | 2016       | Increase   |
| ltems   |            |            | (Decrease) |
| Cash Flow from Operating Activities                 | 3,360.96   | 2,838.69   | 522.27     |
| Cash Flow from Investing Activities                 | (1,324.07) | (3,552.89) | 2,228.82   |
| Cash Flow from Financing Activities                 | (1,593.48) | (572.95)   | (1,020.53) |
| Gain (Loss) on Exchange Rate                        | 0.87       | (2.56)     | 3.43       |
| Cash and Cash Equivalents -At the end of the period | 3,105.35   | 2,661.07   | 444.28     |

- 107 -

# 6. Financial Ratio Analysis – Financial statements of the Company and Staff Welfare Fund

In the Fiscal Year 2017 the Company and Staff Welfare Fund's debt-to-equity ratio increased from the previous year due to an increase in accumulated overcollection. Additionally, the Debt Service Coverage Ratio (an ability to pay principal and interests) derived from net cash flows from operating activities which was mainly from the over-collection and higher depreciation of the completed projects.

| Items                                      | 2017  | 2016  | Increase   |
|--|-------|-------|------------|
| iterris                                    | 2017  | 2010  | (Decrease) |
| Debt-to-Equity Ratio (times)               | 13.96 | 13.55 | 0.41       |
| Debt-to-Equity Ratio (times)               | 6.31  | 7.19  | (0.88)     |
| (Not including accumulated overcollection) |       |       |            |
| Debt Service Coverage Ratio (times)        | 1.64  | 1.44  | 0.20       |

The Company operates on a cost-recovery basis. Practically, in the case of income over-expenditure, the over-collection will be rebated to Member Airlines. Conversely the Company will collect any under-recovery from Member Airlines if there is the income under-expenditure. The Company's funds for various investments are financed by over-collection that the Company retains according to the resolution of the Ordinary General Meeting and long-term loans from financial institutions. The ability to repay loans depends mainly on depreciation which is already included in Air Navigation Services Charges (ANS Charges) to be collected from Airlines.

#### **Financial Trend**

1. Financial Trend in 2018

According to the Company's 2018 Financial Plan (Years 2018 - 2022) which was approved by the Company's Board of Directors at the 6th/2017 (602) Meeting on 28th June 2017, the total income is expected to be Baht 13,214.19 million consisting of ANS Charges at Baht 12,448.34 million and other related services and other income of Baht 765.85 million. The Company forecast that the increase of overall air traffic volume at 6.8% from 2017. For income from ANS Charges, the unit rate of ANS charges for En Route is Baht 3,500 per unit and Terminal is Baht 500 per unit. The expected operating expenditure is Baht 12,863.82 million. Thus, the expected incomeover-expenditure is at Baht 350.37 million.

To be consistent with the current situation the Company revised and forecast that overall air traffic volume will slightly decrease from prior forecasts to an increase of 6.4% from 2017 which results in a slight decrease in forecasted income from ANS Charges.

The Capital Expenditure Budget in 2018 was approved by the Cabinet on 26th September 2017 at a ceiling of Baht 1,750 million which is consistent to the Company's Corporate Plan for the years 2018 – 2022 and sources of investment deriving only from income over-expenditure or over-collection from 2017 with no loans required in the fiscal year 2018.

# 2. Financial Trend in 5 year period (2018 - 2022): 5 year Income and Expenditure Plan (2018 - 2022)

From the 5-year financial projection according to the 2018 Financial Plan (2018 - 2022), the Company expects that total income will increase at an average rate of 7% per annum. The Company will maintain the current unit rate of ANS Charges until 2021 which achieve goal and objectives of the Company. However, in 2022, the Company has a plan to revise the unit rate of ANS Charges. They are to be increased within the ceiling unit rate of ANS Charges, approved by Civil Aviation Board (CAB). The operating expenditure is expected to increase at an average rate of 8% per annum and the Company will have income over-expenditure throughout the next 5 years.

#### 5-year investment plan and financial sourcing

According to 5-year investment plan (2018 - 2022) which is consistent to the Company's Corporate Plan for 2018 - 2022, the Company's investment budget ceiling is expected to be approximately Baht 13,700 million. The investment is mainly used in safety and its related services, including procurement of systems and equipment to maintain the stability and the efficiency of Air Navigation Services by replacing

deteriorated equipment, as well as additional investing in Thailand Modernization Communications, Navigation and Surveillance/air Traffic Management (CNS/ATM) Systems Project to be complete and competitive capacity, which is in line with the development of National Air Transportation. In addition to this, the investment will be used in other technology to develop air navigation services to be consistent with ICAO's Aviation system Block Upgrade: ASBUs, the sources of investment will derive from over-collection and other remaining working capital as well as loans from external financing.

### AUDITOR'S REPORT

### To the Shareholders of Aeronautical Radio of Thailand Limited

### Opinion

The Office of the Auditor General of Thailand has audited the accompanying consolidated financial statements of Aeronautical Radio of Thailand Limited and Staff Welfare Fund (the Group) and separate financial statements of Aeronautical Radio of Thailand Limited (the Company), which comprise of the consolidated and separate statements of financial position, as at September 30, 2017, and the consolidated and separate statements of income and expenditure and statements of cash flows for the years then ended, and notes to the consolidated and separate financial statements, as well as a summary of significant accounting policies.

In the opinion of Office of the Auditor General of Thailand the above mentioned consolidated and separate financial statements are presented fairly, in all material respects, the consolidated financial position of the Group and separate financial position of the Company, respectively, as of September 30th 2017, and their consolidated and separate financial performance and cash flows for the year ended in accordance with Thai Financial Reporting Standards (TFRSs).

#### Basis for Opinion

The Office of the Auditor General of Thailand conducted the audit in accordance with Thai Standards on Auditing (TSAs). The Office of the Auditor General of Thailand's responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated and separate financial statements section of the Office of the Auditor General of Thailand's report. The Office of the Auditor General of Thailand is independent of the Group and the Company in accordance with the State Audit Standards issued by the State Audit Commission and the Code of Ethics for Professional Accountants issued by the Federation of Accounting Professions under the Royal Patronage of His Majesty the King that are relevant to the Office of the Auditor General of Thailand's audit of the consolidated and separate financial statements, and has fulfilled other ethical responsibilities in accordance with these requirements. The Office of the Auditor General of Thailand believes that the audit evidence obtained is sufficient and appropriate to provide a basis for the Office of the Auditor General of Thailand's opinion.

The Management is responsible for the other information which is information included in the annual report excepting the consolidated and separate financial statements and auditor's report therein. Management agree that the annual report is made available to the Office of the Auditor General of Thailand after the date of this auditor's report.

The Office of the Auditor General of Thailand's opinion on the consolidated and separate financial statements does not cover the other information and the Office of the Auditor General of Thailand will not express any form of assurance conclusion therein.

In connection with the audit of the consolidated and separate financial statements, the Office of the Auditor General of Thailand's responsibility is to read and consider whether the other information is materially inconsistent with the consolidated and separate financial statements or the Office of the Auditor General of Thailand's knowledge obtained in the audit, or otherwise appears to be materially misstated.

When the Office of the Auditor General of Thailand reads the annual report, if the Office of the Auditor General of Thailand concludes that there is a material misstatement, the Office of the Auditor General of Thailand is required to communicate the matter to those charged with governance.

# Responsibilities of Management and Those Charged with Governance for the Consolidated and Separate Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated and separate financial statements in accordance with TFRSs, and for such internal control as management determines necessary to enable the preparation of consolidated and separate financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated and separate financial statements, the management is responsible for assessing the Group's and the Company's ability to continue as a going concern, disclosing matters relates to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group and the Company or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's and the Company's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated and Separate Financial Statements

The Office of the Auditor General of Thailand's objectives are to obtain reasonable assurance about whether the consolidated and separate financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes the Office of the Auditor General of Thailand's opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with TSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated and separate financial statements.

As part of an audit in accordance with TSAs, the Office of the Auditor General of Thailand exercises professional judgment and maintain professional skepticism throughout the audit. The Office of Auditor General of Thailand also:

• Identifies and assesses the risks of material misstatement of the consolidated and separate financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence that is sufficient and appropriate to provide a basis for the Office of the Auditor General of Thailand's opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

• Obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's and the Company's internal control.

• Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.

• Concludes on the appropriateness of the management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Company's ability to continue as a going concern. If the Office of the Auditor General of Thailand concludes that material uncertainty exists, the Office of the Auditor General of Thailand is required to draw attention to the Office of the Auditor General of Thailand auditor's report to the related disclosures in the consolidated and separate financial statements or, if such disclosures are inadequate, to modify the Office of the Auditor General of Thailand's opinion. The Office of the Auditor General of Thailand's conclusions are based on the audit evidence obtained up to the date of the Office of the Auditor General of Thailand auditor's report. However, future events or conditions may cause the Group and the Company to cease to continue as a going concern.

• Evaluates the overall presentation, structure and content of the consolidated and separate financial statements, including the disclosures, and whether the consolidated and separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

• Obtains sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. The Office of the Auditor General of Thailand is responsible for the direction, supervision and performance of the group audit. The Office of the Auditor General of Thailand remains solely responsible for the Office of the Auditor General of Thailand's audit opinion.

The Office of the Auditor General of Thailand communicates with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that the Office of the Auditor General of Thailand identifies during the Office of the Auditor General of Thailand's audit.

> Signed (Miss Bunloon Sirisinghsungchai) Director of Financial Audit Office No.4

Signed (Mrs. Sulaiwon Phianphoemphat) Division Director

Office of the Auditor General of Thailand 27 November 2017

# AERONAUTICAL RADIO OF THAILAND LTD. AND STAFF WELFARE FUND Notes to Financial Statements For the year ending 30th September 2017

### 1. The Objective of the Establishment of the Company

The Company's objective is to provide air traffic control, aeronautical communications and related services to meet the requirements of air transport operators and the (ICAO) standards and recommended practices with safety, consistency and efficiency that is the Government's obligation to ICAO as one of the Contracting States. The Company provides services to air transport operators on a cost recovery basis. The company recovers expenses by collecting air navigation service charges fairly from users.

#### 2. Principles for Presentation of Financial Statements

The consolidated and separate financial statements of Aeronautical Radio of Thailand Ltd. have been prepared in accordance with generally accepted accounting principles of the Accounts Act, 2000 and Accounting Professional Act, 2004 as well as accounting interpretation and guidelines that have been approved by the Federation of Accounting Professions. Also, the Company's financial statements have been prepared in accordance with the announcement by Department of Business Development regarding the brief items necessary in 2011 financial statements, dated 28 September 2011 by including the accounting transaction of Staff Welfare Fund.

3. The new/revised Thai Accounting Standards (TAS), Thai Financial Reporting Standards (TFRS), Thai Standard Interpretations Committee (TSIC) and Thai Financial Reporting Interpretations Committee (TFRIC) which were announced in the Government Gazette, are as follows:

- Effective for accounting periods on or after 1 January 2017:
- TAS 1 (revised 2016): Presentation of Financial Statements
- TAS 2 (revised 2016): Inventories
- TAS 7 (revised 2016): Statement of Cash Flows
- TAS 8 (revised 2016): Accounting Policies, Changes in Accounting Estimates and Errors
- TAS 10 (revised 2016): Events after the Reporting Period
- TAS 11 (revised 2016): Construction Contracts
- TAS 12 (revised 2016): Income taxes
- TAS 16 (revised 2016): Property, Plant and Equipment
- TAS 17 (revised 2016): Leases
- TAS 18 (revised 2016): Revenue
- TAS 19 (revised 2016): Employee Benefits

- TAS 20 (revised 2016): Accounting for Government Grants and Disclosure of Government Assistance
- TAS 21 (revised 2016): The Effects of Changes in Foreign Exchange Rates
- TAS 23 (revised 2016): Borrowing Cost
- TAS 24 (revised 2016): Related Party Disclosures
- TAS 26 (revised 2016): Accounting and Reporting by Retirement Benefit Plans
- TAS 27 (revised 2016): Separate Financial Statements
- TAS 28 (revised 2016): Investment in Associates
- TAS 29 (revised 2016): Financial Reporting in Hyperinflationary Economics
- TAS 33 (revised 2016): Earnings per Share
- TAS 34 (revised 2016): Interim Financial Reporting
- TAS 36 (revised 2016): Impairment of Assets
- TAS 37 (revised 2016): Provisions, Contingent Liabilities and Contingent Assets
- TAS 38 (revised 2016): Intangible Assets
- TAS 40 (revised 2016): Investment Property
- TAS 41 (revised 2016): Agriculture
- TAS 104 (revised 2016): Accounting for Troubled Debt Restructuring
- TAS 105 (revised 2016): Accounting for Investments in Debt and Equity Securities
- TAS 107 (revised 2016): Financial Instruments Disclosure and Presentation
- TFRS 2 (revised 2016): Share-based Payments
- TFRS 3 (revised 2016): Business Combinations
- TFRS 4 (revised 2016): Insurance Contracts
- TFRS 5 (revised 2016): Non-current Assets Held for Sale and Discontinued Operations
- TFRS 6 (revised 2016): Exploration for and Evaluation of Mineral Resources
- TFRS 8 (revised 2016): Operating Segments
- TFRS 10 (revised 2016): Consolidated Financial Statements
- TFRS 11 (revised 2016): Joint Arrangements
- TFRS 12 (revised 2016): Disclosure of Interest in Other Entities
- TFRS 13 (revised 2016): Fair Value Measurement
- TSIC 10 (revised 2016): Government Assistance No Specific Relation to Operating Activities
- TSIC 15 (revised 2016): Operating Leases Incentives
- TSIC 25 (revised 2016): Income Taxes Changes in the Tax Status of an Entity or its Shareholders
- TSIC 27 (revised 2016): Evaluating the Substance of Transactions Involving the Legal Form of a Lease
- TSIC 29 (revised 2016): Service Concession Arrangements: Disclosures

- TSIC 31 (revised 2016): Revenue Barter Transactions Involving Advertising Services
- TSIC 32 (revised 2016): Intangible Assets -Web Site Costs
- TFRIC 1 (revised 2016): Changes in Existing Decommissioning, Restoration and Similar Liabilities
- TFRIC 4 (revised 2016): Determining whether an Arrangement contains a Lease
- TFRIC 5 (revised 2016): Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds
- TFRIC 7 (revised 2016): Applying the Restatement Approach under TAS 29 (revised 2016) Financial Reporting in Hyperinflationary Economics
- TFRIC 10 (revised 2016): Interim Financial Reporting and Impairment
- TFRIC 12 (revised 2016): Service Concession Arrangements
- TFRIC 13 (revised 2016): Customer Loyalty Programmes

TFRIC 14 (revised 2016): Minimum Funding Requirements and their Interaction

TAS 19 (revised 2016) - The Limit on a Defined Benefit Asset

TFRIC 15 (revised 2016): Agreements for the Construction of Real Estate

TFRIC 17 (revised 2016): Distributions of Non-cash Assets to Owners

- TFRIC 18 (revised 2016): Transfer of Assets from Customers
- TFRIC 20 (revised 2016): Stripping Costs in the Production Phase of a Surface Mine
- TFRIC 21 (revised 2016): Levies
  - Effective for accounting periods on or after 1 January 2018:
- TAS 1 (revised 2017): Presentation of Financial Statements
- TAS 2 (revised 2017): Inventories
- TAS 7 (revised 2017): Statement of Cash Flows
- TAS 8 (revised 2017): Accounting Policies, Changes in Accounting Estimates and Errors
- TAS 10 (revised 2017): Events after the Reporting Period
- TAS 11 (revised 2017): Construction Contracts
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- TAS 17 (revised 2017): Leases
- TAS 18 (revised 2017): Revenue
- TAS 19 (revised 2017): Employee Benefits
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- TAS 23 (revised 2017): Borrowing Cost
- TAS 24 (revised 2017): Related Party Disclosures
- TAS 26 (revised 2017): Accounting and Reporting by Retirement Benefit Plans
- TAS 27 (revised 2017): Separate Financial Statements

- TAS 28 (revised 2017): Investment in Associates
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- TAS 33 (revised 2017): Earnings per Share
- TAS 34 (revised 2017): Interim Financial Reporting
- TAS 36 (revised 2017): Impairment of Assets
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- TFRS 2 (revised 2017): Share-based Payments
- TFRS 3 (revised 2017): Business Combinations
- TFRS 4 (revised 2017): Insurance Contracts
- TFRS 5 (revised 2017): Non-current Assets Held for Sale and Discontinued Operations
- TFRS 6 (revised 2017): Exploration for and Evaluation of Mineral Resources
- TFRS 8 (revised 2017): Operating Segments
- TFRS 10 (revised 2017): Consolidated Financial Statements
- TFRS 11 (revised 2017): Joint Arrangements
- TFRS 12 (revised 2017): Disclosure of Interests in Other Entities
- TFRS 13 (revised 2017): Fair Value Measurement
- TSIC 10 (revised 2017): Government Assistance No Specific Relation to Operating Activities
- TSIC 15 (revised 2017): Operating Leases Incentives
- TSIC 25 (revised 2017): Income Taxes Changes in the Tax Status of an Entity or its Shareholders
- TSIC 27 (revised 2017): Evaluating the Substance of Transactions Involving the Legal Form of a Lease
- TSIC 29 (revised 2017): Service Concession Arrangements: Disclosures
- TSIC 31 (revised 2017): Revenue Barter Transactions Involving Advertising Services
- TSIC 32 (revised 2017): Intangible Assets -Web Site Costs
- TFRIC 1 (revised 2017): Changes in Existing Decommissioning, Restoration and Similar Liabilities
- TFRIC 4 (revised 2017): Determining whether an Arrangement contains a Lease
- TFRIC 5 (revised 2017): Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds
- TFRIC 7 (revised 2017): Applying the Restatement Approach under TAS 29 (revised 2017) Financial Reporting in Hyperinflationary Economics
- TFRIC 10 (revised 2017): Interim Financial Reporting and Impairment

TFRIC 12 (revised 2017): Service Concession Arrangements

TFRIC 13 (revised 2017): Customer Loyalty Programmes

TFRIC 14 (revised 2017): Minimum Funding Requirements and their Interaction

TAS 19 (revised 2017) - The Limit on a Defined Benefit Asset

TFRIC 15 (revised 2017): Agreements for the Construction of Real Estate

TFRIC 17 (revised 2017): Distributions of Non-Cash Assets to Owners

TFRIC 18 (revised 2017): Transfer of Assets from Customers

TFRIC 20 (revised 2017): Stripping Costs in the Production Phase of a Surface Mine

TFRIC 21 (revised 2017): Levies

The Company's Management has made an assessment of the impact caused by applying these new and revised standards and interpretations which will be effective for accounting periods on or after 1 January 2018 and believes that the majority of key accounting principles remain unchanged. Also, there will be no material impact on both the Company's consolidated and separate financial statements.

#### 4. Summary of Significant Accounting Policies

### 4.1 Incomes and Expenditures Recognition

4.1.1 Income derived from air navigation services is recognized as income in the accounting period that services are provided.

4.1.2 Equipment rental and maintenance incomes and Airline Operational Control (AOC) income are recognized as income over the period at the rate of remuneration specified in the agreement.

4.1.3 Income from work orders is recognized as income when each order is completed and delivered to customers.

4.1.4 Interest received is recognized in proportion of time on the basis of actual rate of return.

4.1.5 Expenditures are recognized on an accrual basis.

### 4.2 Allowances for Doubtful Accounts

The allowance is recorded equal to the estimated losses that may result in collection of debts. Generally, estimations are based on an experience of debt recovery in the past and from non-governmental organizations or non-state enterprise debtors' current status at the Statement of Financial Position date. The allowance for doubtful accounts is made according to the Regulations for Account and Finance, 2005 by the Ministry of Finance as follows:

| Period                 | Overdue Rate of Provision for Doubtful Accounts (%) |
|------------------------|---|
| Over 6 months - 1 year | 50  |
| Over 1 year            | 100   |

### 4.3 Store Supplies

Store supplies are recorded at a cost on the weighted average basis. For overseas purchases, import formality handling charges are recorded as operating expenditure.

#### 4.4 Investments

Investments are recorded at costs as follows:

4.4.1 Temporary investment is the investment that the Company expects to hold to maturity or converts into cash within one year such as not over 12-month fixed deposit account.

4.4.2 Other long-term investment is the investment that the Company expects to hold longer than one year such as over 12-month fixed deposit account.

### 4.5 Buildings and Equipment

4.5.1 Buildings and equipment are recorded at cost less accumulated depreciation.

Depreciation, the Company has depreciated the assets by using the straight-line method based on the estimated useful life of assets begin from the month the assets were available for use as follows:

| Buildings and Construction    | 7-20  | years |
|-------------------------------|-------|-------|
| Utility System                | 5-20  | years |
| Radar and Equipment           | 7-15  | years |
| Power Generators              | 10-20 | years |
| Teleprinters                  | 7     | years |
| Equipment and Tools           | 7-20  | years |
| Furniture and Office Supplies | 5-7   | years |
| Vehicles                      | 5     | years |
| Aircraft                      | 5-25  | years |
| Assets from Donations         | 5-25  | years |

Assets acquired or received with a value not exceeding Baht 30,000 are recognized as expenses.

Intangible assets prior to year 2014 are including in furniture and office supplies.

The developments of computer system which materially enhance the capacity or efficiency as well as the acquisition of assets which provide revenue to The Company for more than one year are recognized as fixed assets.

4.5.2 Aircraft Inspection and Repair as Necessary (IRAN) are recorded at cost and depreciation is calculated using the straight-line method based on the duration of the affected aircraft's useful life: 5–10 years.

# 4.6 Intangible Assets

The amortization of intangible assets is calculated using the straight-line method of 20% per year over the asset's estimated useful life.

#### 4.7 Interest Paid on Loan

Asset under construction funded by loans: interest paid will be recorded as the cost of the asset under construction. After the work has been completed, the interest paid will be recognized as expenses.

#### 4.8 Unearned Income

Receipt of assets donated which used for operations longer than one accounting period are recorded at cost as unearned income and then gradually transferred to other income throughout the useful life of those assets.

### 4.9 Accounting Items in Foreign Currency

Assets and Liabilities of foreign currency value are recorded in Baht by initially using the currency exchange rate at the date the transaction occurs. At the end of each accounting period, the asset and liability value will be adjusted to Baht according to the currency exchange rate announced by the Bank of Thailand on that day. Gain or loss from currency exchange rate revaluation will be recognized wholly as an income or expense item in the statements of income and expenditure.

#### 4.10 Interest Rate Swap (IRS) Agreement

The Company has signed the financial derivatives, including Interest Rate Swap (IRS) Agreement in order to hedge risk. The difference of interest payments will be recorded as other incomes or other operating expenditures in the statements of income and expenditure.

### 4.11 Overcollection and Under-Recovery to Member Airlines

The Company operates on a non-profit or cost recovery basis. If income exceeds expenditure, the overcollection amount will be recorded as liability and will be refunded to Member Airlines. On the other hand, if expenditure exceeds income, then the under-recovery amount will be recorded as asset and will be charged to Member Airlines. Such rule will be distributed to each Member Airlines according to revenue generated by each of them for that particular period.

### 4.12 Employee Benefit Obligations

The Company's Employee benefits in respect of defined benefit plans and other long-term employee benefits are determined by using the projected unit credit method based on actuarial valuation. The discount rate used is determined by reference to market yields on government bonds in which all actuarial gains and losses arising in each accounting period will be recognized as income or expense within the accounting period in which they arise.

### 4.13 Provident Fund

On 1 October 1992, the Company established "the Registered Provident Fund for Staff of Aeronautical Radio of Thailand Ltd." in accordance with the Provident Fund Act, 1987. The staff members pay accumulated contribution to the fund at the rate of 2 - 15% of their salaries and the Company makes a contribution to the fund at the rate of 8.5 - 15% of staff members' salaries.

### 4.14 Cash and Cash Equivalents

Cash and cash equivalents mean cash on hand and at bank for which repayment is due within 3 months.

# 5. Supplementary Information

# 5.1 Cash and Cash Equivalents

|                          |                       |          | Un          | it: Million Baht |
|--------------------------|-----------------------|----------|-------------|------------------|
|                          | Consolidated Separate |          | irate       |                  |
|                          | Financial Statements  |          | Financial S | tatements        |
|                          | 2017                  | 2016     | 2017        | 2016             |
| Cash on hand - Domestic  | 4.55                  | 4.13     | 2.25        | 1.83             |
| Cash at Banks - Domestic | 3,100.80              | 2,656.94 | 3,021.77    | 2,582.70         |
| Total                    | 3,105.35              | 2,661.07 | 3,024.02    | 2,584.53         |

# 5.2 Temporary Investment

|                                 |                      |          | Unit:     | Million Baht |
|---------------------------------|----------------------|----------|-----------|--------------|
|                                 | Consolidated         |          | Sep       | arate        |
|                                 | Financial Statements |          | Financial | Statements   |
|                                 | 2017                 | 2016     | 2017      | 2016         |
| Fixed Deposit Account-6 months  | 1,513.27             | 1,758.81 | 1,512.72  | 1,758.26     |
| Fixed Deposit Account-12 months | 203.77               | 158.76   | -         | -            |
| Total                           | 1717.04              | 1,917.57 | 1,512.72  | 1,758.26     |

# 5.3 Receivables from Air Navigation Service (ANS) and other receivables

Unit: Million Baht

|                                      |              |            | 0111      |            |
|--------------------------------------|--------------|------------|-----------|------------|
|                                      | Consolidated |            | Sep       | barate     |
|                                      | Financial    | Statements | Financial | Statements |
|                                      | 2017         | 2016       | 2017      | 2016       |
| Receivables from ANS                 |              |            |           |            |
| Receivable cheques                   | 6.97         | 4.26       | 6.97      | 4.26       |
| Airlines Debtors                     | 1,385.56     | 1,169.56   | 1,385.56  | 1,169.56   |
| Domestic Debtors                     | 74.73        | 81.79      | 74.44     | 81.41      |
| International Debtors                | 15.23        | 24.44      | 15.23     | 24.44      |
| Accrued Income                       | 1.28         | 2.74       | 1.28      | 2.74       |
|                                      | 1,483.77     | 1,282.79   | 1,483.48  | 1,282.41   |
| Less Allowance for doubtful accounts | (258.07)     | (227.72)   | (258.07)  | (227.72)   |
| Total Receivables from ANS -Net      | 1,225.70     | 1,055.07   | 1,225.41  | 1,054.69   |
| Other receivables                    |              |            |           |            |
| Interest Receivable                  | 12.22        | 8.86       | 12.02     | 8.70       |
| Penalty to contractors               | 67.89        | 58.26      | 67.89     | 58.26      |
|                                      |              |            |           |            |

| Loans to staff                 | 0.12     | 0.18     | 0.12     | 0.18     |
|--------------------------------|----------|----------|----------|----------|
| Prepaid Expenses               | 31.06    | 46.11    | 31.06    | 46.11    |
| Advances to staff for expenses | 23.22    | 22.52    | 7.04     | 5.59     |
| Total other receivables        | 134.51   | 135.93   | 118.13   | 118.84   |
| Total                          | 1,360.21 | 1,191.00 | 1,343.54 | 1,173.53 |

Penalty to contractors as of 30th September 2017 is mainly derived from the delayed delivery of the Acquisition and Installation of one system of ATS Message Exchange System and Automatic Message Handling System Project at Baht 67.36 million. Since AEROTHAI has not paid the final installment of Baht 40 million to this supplier, after deducting the penalty charge the supplier has an outstanding debt of Baht 27.36 million. This case is still under a fact-finding process by the Central Administrative Court and pending for a Central Administrative Court's order to appoint first trial.

### 5.4 Store Supplies

Unit: Million Baht

|                                 | Separate             |        |  |
|---------------------------------|----------------------|--------|--|
|                                 | Financial Statements |        |  |
|                                 | 2017 2016            |        |  |
| Spare parts for Radar           | 83.24                | 101.54 |  |
| Spare parts for Aircraft        | 21.53                | 25.43  |  |
| Spare parts for Radio Equipment | 1.23                 | 2.05   |  |
| Office supplies                 | 3.93                 | 3.41   |  |
| Other spare parts               | 0.77                 | 0.78   |  |
| Total                           | 110.70               | 133.21 |  |

### 5.5 Other Current Assets

### Unit: Million Baht

|                   | Separate             |        |  |
|-------------------|----------------------|--------|--|
|                   | Financial Statements |        |  |
|                   | 2017                 | 2016   |  |
| Deposit Payments  | 4.51                 | 4.65   |  |
| Work in Process   | 1.44                 | 0.53   |  |
| Suspense accounts | (0.85)               | (0.66) |  |
| Total             | 5.10                 | 4.52   |  |

# 5.6 Other long-term investments

|                                 |             |            | Unit        | : Million Baht |
|---------------------------------|-------------|------------|-------------|----------------|
|                                 | Conso       | lidated    | Sepa        | arate          |
| _                               | Financial S | Statements | Financial S | statements     |
|                                 | 2017        | 2016       | 2017        | 2016           |
| Vayupak Fund 1                  | 10.00       | 10.00      | 10.00       | 10.00          |
| Fixed Deposit Account-36 months | 0.10        | 0.10       | -           | -              |
| Total                           | 10.10       | 10.10      | 10.00       | 10.00          |

# 5.7 Buildings and Equipment

Unit: Million Baht

|   | Original Cost |                      |          | Accumulated Depreciation |          |          |          | Book Value |            |            |
|---|---------------|----------------------|----------|--------------------------|----------|----------|----------|------------|------------|------------|
|   | Balance       |                      |          | Balance                  | Balance  |          |          | Balance    | BOOK       | /alue      |
|   | 1 Oct 16      | Increase             | Decrease | 30 Sept 17               | 1 Oct 16 | Increase | Decrease | 30 Sept 17 | 30 Sept 17 | 30 Sept 16 |
| The Company's buildings and equip               | oment         |                      |          |                          |          |          |          |            |            |            |
| Buildings and Construction                      | 2,935.58      | 38.98                | -        | 2,974.56                 | 1,719.51 | 119.66   | =        | 1,839.17   | 1,135.39   | 1,216.07   |
| Utility Systems                                 | 1,356.82      | 85.81                | 12.76    | 1,429.87                 | 754.98   | 83.73    | 12.33    | 826.38     | 603.49     | 601.84     |
| Radar and Communication Equipment <sup>1/</sup> | 6,314.19      | 305.29               | 153.64   | 6,465.84                 | 4,468.69 | 401.79   | 152.22   | 4,718.26   | 1,747.58   | 1,845.50   |
| Power Generators                                | 378.75        | 20.56                | 1.64     | 397.67                   | 214.64   | 19.58    | 1.64     | 232.58     | 165.09     | 164.11     |
| Teleprinters                                    | 0.06          | -                    | -        | 0.06                     | 0.06     | -        | -        | 0.06       | -          | -          |
| Equipment and Tools                             | 1,208.52      | 84.94                | 17.52    | 1,275.94                 | 787.85   | 86.03    | 17.42    | 856.46     | 419.48     | 420.67     |
| Office Supplies (including computer             | 1,033.19      | 195.84               | 33.97    | 1,195.06                 | 762.97   | 111.91   | 33.79    | 841.09     | 353.97     | 270.22     |
| systems and equipment)                          |               |                      |          |                          |          |          |          |            |            |            |
| Vehicles  | 3.52          | 0.44                 | -        | 3.96                     | 2.39     | 0.32     | -        | 2.71       | 1.25       | 1.13       |
| Aircraft  | 821.94        | -                    | -        | 821.94                   | 138.19   | 32.30    | -        | 170.49     | 651.45     | 683.75     |
| Assets from Donations                           | 114.03        | 0.20                 | 3.37     | 110.86                   | 111.27   | 0.73     | 3.37     | 108.63     | 2.23       | 2.76       |
| Total   | 14,166.60     | 732.06 <sup>2/</sup> | 222.90   | 14,675.76                | 8,960.55 | 856.05   | 220.77   | 9,595.83   | 5,079.93   | 5,206.05   |
| Staff Welfare Fund's equipment                  |               |                      |          |                          |          |          |          |            |            |            |
| Musical Instruments and                         | 3.27          | 0.25                 | -        | 3.52                     | 2.62     | 0.14     | -        | 2.76       | 0.76       | 0.65       |
| Sports Equipment                                |               |                      |          |                          |          |          |          |            |            |            |
| Grand Total                                     | 14,169.87     | 732.31               | 222.90   | 14,679.28                | 8,963.17 | 856.19   | 220.77   | 9,598.59   | 5,080.69   | 5,206.70   |
| =   |               |                      |          |                          |          |          |          |            |            |            |

Notes: 1/

Radar and Equipment comprise of radar systems, air navigation aids, surveillance systems, automatic message switching systems, and other communication equipment.

<sup>2/</sup> The amount is for buildings and equipment, which increased from the transfer of assets under construction at Baht 731.86 million and assets from donations at the amount of Baht 0.20 million.

Buildings and construction used for operations are constructed on the Ratchaphatsadu land with ownership resting with the Ministry of Finance.

# 5.8 Intangible Assets

Unit: Million Baht

|   | Separate                 |          |  |  |
|---|--------------------------|----------|--|--|
|   | Financial St             | atements |  |  |
|   | 2017 2016                |          |  |  |
| Computer Software as at 1 October 2016                  | 55.19                    | 21.84    |  |  |
| Add_Additional during the year                          | 28.25 <sup>1/</sup> 33.3 |          |  |  |
|   | 83.44                    | 55.19    |  |  |
| Less Accumulated Amortization                           | (26.78)                  | (12.01)  |  |  |
| Total Computer Software as at 30 September 2017         | 56.66                    | 43.18    |  |  |
| Amortization – This year                                | 14.76                    | 7.14     |  |  |
| <sup>1/</sup> the transfer of assets under construction |                          |          |  |  |

# 5.9 Assets under Construction

Unit: Million Baht

|   | Separate             |            |  |  |  |
|---|----------------------|------------|--|--|--|
|   | Financial Statements |            |  |  |  |
|   | 2017 2016            |            |  |  |  |
| Balance brought forward as at 1 October 2016    | 2,199.30             | 1,989.52   |  |  |  |
| Add Additional during the year                  | 1,529.10             | 1,780.88   |  |  |  |
|   | 3,728.40             | 3,770.40   |  |  |  |
| Less Transfer to Buildings and Equipment        | (731.86)             | (1,531.76) |  |  |  |
| Transfer to Intangible Assets                   | (28.25)              | (33.35)    |  |  |  |
| Transfer to Expenses                            | (1.04)               | (5.99)     |  |  |  |
| Balance carried forward as at 30 September 2017 | 2,967.25             | 2,199.30   |  |  |  |

# 5.10 Trade and Other Payables

|                         |              |        | Unit: N     | Aillion Baht |
|-------------------------|--------------|--------|-------------|--------------|
|                         | Consolidated |        | Separate    |              |
|                         | Financial    |        | Financial S | tatements    |
|                         | Statements   |        |             |              |
|                         | 2017         | 2016   | 2017        | 2016         |
| Trade Payable           |              |        |             |              |
| Trade Payable -Domestic | 948.16       | 135.80 | 948.16      | 135.80       |
| Trade Payable -Overseas | 4.23         | 3.84   | 4.23        | 3.84         |

| Suspense Account for Goods and Services | 385.73   | 252.28   | 385.73   | 252.28   |
|---|----------|----------|----------|----------|
| Total Trade Payable                     | 1,338.12 | 391.92   | 1,338.12 | 391.92   |
| Other Payables                          |          |          |          |          |
| Suspense Account for Pay Cheques        | 41.81    | 771.65   | 32.13    | 763.11   |
| Suspense Account for Debtors            | 156.60   | 52.10    | 156.60   | 52.10    |
| Staff Payable                           | 11.06    | 8.56     | 11.06    | 8.56     |
| Deferred Income                         | 7.64     | 8.46     | 7.49     | 8.46     |
| Total Other Payables                    | 217.11   | 840.77   | 207.28   | 832.23   |
| Total                                   | 1,555.23 | 1,232.69 | 1,545.40 | 1,224.15 |

# 5.11 Current portion of Long-term Loans due in One Year

(Separate Financial Statements)

|  |              | Unit: Million Baht    |          |          |          |
|--|--------------|-----------------------|----------|----------|----------|
|  |              | Bank                  |          |          |          |
|  |              | Government<br>Savings |          | Krungsri | Total    |
|  | Credit Limit | 1,650.00              | 3,480.00 | 2,075.43 |          |
| Balance brought forward as at 1 Oct 16   |              | 126.94                | -        | 415.09   | 542.03   |
| Less Payments during the period          |              | (126.94)              | -        | (415.09) | (542.03) |
|  |              | -                     | -        | -        | -        |
| Add Transferred from long-term loans     |              | 126.94                | 1.00     | 415.09   | 543.03   |
| Balance carried forward as at 30 Sept 17 |              | 126.94                | 1.00     | 415.09   | 543.03   |

# 5.12 Accrued Expenses

|  |              |       | Unit: Mi   | llion Baht |
|--|--------------|-------|------------|------------|
|  | Consolidated |       | Separate   |            |
|  | Financial    |       | Financial  |            |
|  | Statements   |       | Statements |            |
|  | 2017         | 2016  | 2017       | 2016       |
| Ratchaphatsadu Land Lease and Property Tax | 187.45       | 51.15 | 187.45     | 51.15      |
| Utilities                                  | 28.52        | 27.90 | 28.52      | 27.90      |
| Others                                     | 9.85         | 18.92 | 6.16       | 15.12      |
| Total                                      | 225.82       | 97.97 | 222.13     | 94.17      |

# 5.13 Accumulated Overcollection

|  | Unit: Million Baht   |          |  |
|--|----------------------|----------|--|
|  | Separate             |          |  |
|  | Financial Statements |          |  |
|  | 2017                 | 2016     |  |
| Overcollection to Member Airlines - brought forward as at 1 Oct 16 | 5,849.29             | 3,867.02 |  |
| Add Overcollection to Member Airlines during the year              | 2,000.47             | 2,362.87 |  |
| Collection of Under-Recovery from Member Airlines                  | -                    | 0.05     |  |
| whose membership was terminated                                    |                      |          |  |
|  | 7,849.76             | 6,229.94 |  |
| Less Rebate Overcollection in 2016 to Member Airlines              |                      |          |  |
| during the year  | (470.57)             | (380.65) |  |
| Balance carried forward as at 30 Sept 2017                         | 7,379.19             | 5,849.29 |  |

The Company's Shareholders at the 70th Ordinary General Meeting on 23rd January 2017 approved the Company rebate 20% of the fiscal year 2016 overcollection to Member Airlines in order to deduct Air Navigation Service charges within the fiscal year 2017 (April - September 2017). The remaining 80% of overcollection will be carried forward for investment in 2017 and repayment of loans.

In 2017 the Company had Baht 12,194.11 million total income and Baht 10,193.64 million total expenditure resulting in over-collection at Baht 2,000.47 million. When combined ove-rcollection this year with the accumulated over-collection brought forward from 2016 of Baht 5,849.29 million, and the over-collection rebate to Member Airlines of Baht 470.57 million, leaving the accumulated over-collection of Baht 7,379.19 million at the end of the fiscal year 2017.

In addition, income derived from telecommunication business under telecommunication license type 2 for the operator with its own network, which amounted to Baht 67.59 million during 1st October 2016 – 30th September 2017 has already been included in Equipment Rental & Maintenance and AOC income.

|  | Consolidated |            | Separate    |            |
|--|--------------|------------|-------------|------------|
|  | Financial S  | Statements | Financial S | Statements |
|  | 2017         | 2016       | 2017        | 2016       |
| Unearned Income                          | 2.23         | 2.76       | 2.23        | 2.76       |
| Accrued Income Tax and Tax Payable       | 324.10       | 305.97     | 323.94      | 305.80     |
| Guarantee Money                          | 99.48        | 70.95      | 99.34       | 70.81      |
| Suspense Account for B Shares allocation | 2.51         | 2.46       | 2.51        | 2.46       |
| Total                                    | 428.32       | 382.14     | 428.02      | 381.83     |

# 5.15 Long - Term Loans (Separate Financial Statements)

|            | 5          |          |              |             |                   | Unit:               | Million Baht |
|------------|------------|----------|--------------|-------------|-------------------|---------------------|--------------|
|            |            | Credit   |              | Transferred | Payment           | Balance as          | Balance      |
| Bank       | Contract   | Limit    | Duration     | to loans    | during the period | at 30 Sept.<br>2017 | as at 30     |
|            | Date       |          |              | due within  | 1                 | -                   | Sept.        |
|            |            |          |              | 1 year      |                   |                     | 2016         |
| Government |            |          | 15 Y., Grace |             |                   |                     |              |
| Savings    | 3 Sept. 07 | 1,650.00 | Period 2 Y.  | 126.94      | -                 | 571.01              | 697.95       |
| Government | 23 Sept.   |          | 15 Y., Grace |             |                   |                     |              |
| Savings    | 13         | 3,480.00 | Period 3 Y.  | 1.00        | -                 | -                   | 1.00         |
|            | 28 Apr.    |          |              |             |                   |                     |              |
| Krungsri   | 16         | 2,075.43 | 5 Y.         | 415.09      | 1,000.00          | 245.25              | 1.660.34     |
| Total      |            | 7,205.43 |              | 543.03      | 1,000.00          | 816.26              | 2,359.29     |

As of 30th September 2017 the Company has a total credit limit of Baht 7,205.43 million consisting of loans from Government Savings Bank which were used for investment in various projects and loans from the Bank of Ayudhya Public Company Limited for refinancing former loans. The payments of principal and interest are scheduled every 6 months.

Unit: Million Baht

# 5.16 Employee Benefit Obligations

As of 30th September 2011 the Company had employee benefit obligations to the amount of Baht 1,047.56 million in which the Company will gradually recognize as expense on a straight-line basis of Baht 209.51 million annually over a period of 5 years. Hence, The Company gradually recognized employee benefits overtime until completely recognized all overtime as expenses in 2016. In addition to this accounting period, The Company has changed the discount rate from market yields of corporate bonds to government bonds.

Principal actuarial assumptions for calculating provisions are as follows:

|                           | 2017 | 2016 |
|---------------------------|------|------|
| Discount rate (%)         | 2.80 | 4.50 |
| Salary increase rates (%) | 6.00 | 6.00 |

The changes in present value of employee benefit obligations:

Unit: Million Baht

|   | Separate<br>Financial Statements |            |
|---|----------------------------------|------------|
|   | 2017                             | 2016       |
| Employee benefit obligations - Balance brought forward        | 1,977.05                         | 1,488.88   |
| Gradual recognition of employee benefits                      | -                                | 209.51     |
| Current employee benefits                                     | 584.31                           | 341.32     |
| Employee benefit paid   | (57.20)                          | (62.66)    |
| Remaining Employee benefit obligations                        | 2,504.16                         | 1,977.05   |
|   |                                  |            |
| Employee benefits obligations -retrospective to 30 Sept 2011  | -                                | 1,047.56   |
| Gradual recognition of employee benefits - accumulated        | -                                | (1,047.56) |
| Remaining gradual recognition of employee benefit obligations | -                                | -          |

# 5.17 Share Capital (Separate Financial Statements)

|   | Unit: Million Baht |        |
|---|--------------------|--------|
|   | 2017               | 2016   |
| Registered Ordinary Shares and paid up Share Capital  |                    |        |
| Ordinary Shares: 6,600,000 shares; Baht 100 per share |                    |        |
| A-shares (held by the Ministry of Finance)            | 600.00             | 600.00 |
| B-shares (held by Member Airlines)                    | 60.00              | 60.00  |
| Total   | 660.00             | 660.00 |

# 5.18 Appropriation to the Ministry of Finance

The Cabinet Meeting on 27 October 1998 required the Company to pay the appropriation to the Ministry of Finance in proportion of 10% of income from air navigation services charges starting from the fiscal year 1998.

At the Cabinet Meeting on 13th August 2003, approval was given to the Company to prolong the non-payment of the appropriation to the Ministry of Finance between 2002 and 2005. Later, approval to terminate the payment of the appropriation to the Ministry of Finance effective from the fiscal year 2006 was given by the Cabinet Meeting on 20th September 2005.

# 5.19 Other income (Separate Financial Statements)

|                   | Unit: Million Baht |       |
|-------------------|--------------------|-------|
|                   | 2017               | 2016  |
| Interest received | 42.70              | 36.06 |
| Dividend received | 0.06               | 0.13  |
| Other income      | 28.97              | 22.46 |
| Total             | 71.73              | 58.65 |

# 5.20 Employee Benefit Expenses

|                                    |   |          | Unit: N  | Aillion Baht |
|------------------------------------|---|----------|----------|--------------|
|                                    | Consolidated                              |          | Separate |              |
|                                    | Financial Statements Financial Statements |          |          | tatements    |
|                                    | 2017                                      | 2016     | 2017     | 2016         |
| Staff Costs                        | 6,277.21                                  | 5,711.83 | 6,277.21 | 5,711.83     |
| Employee Benefit Expenses          | 584.31                                    | 550.83   | 584.31   | 550.83       |
| Contribution to Provident Fund     | 447.76                                    | 414.47   | 447.76   | 414.47       |
| Contribution to Staff Welfare Fund | -   | -        | 283.57   | 264.01       |
| Total                              | 7,309.28                                  | 6,677.13 | 7,592.85 | 6,941.14     |

|  | Unit: Million Baht |        |
|--|--------------------|--------|
|  | 2017               | 2016   |
| Audit Fee                                    | 1.76               | 1.64   |
| Meeting Expense                              | 24.41              | 23.17  |
| Consultant and service fees                  | 14.52              | 12.47  |
| Public Relations Expense                     | 36.20              | 22.60  |
| Donations                                    | 23.02              | 19.01  |
| Travelling Expense                           | 240.88             | 198.67 |
| Premium Fees                                 | 38.56              | 42.94  |
| Other Fees                                   | 11.20              | 13.10  |
| Training Expense                             | 131.85             | 100.25 |
| Store Supplies and Assets Retirement Expense | 33.64              | 54.25  |
| Securities Expense                           | 47.78              | 44.31  |
| Loss on Fixed Assets Retirement              | 2.13               | 1.98   |
| Loss on Foreign Exchange rate                | 1.46               | 4.49   |
| Doubtful Accounts                            | 30.31              | 20.02  |
| Bad Debts                                    | 19.18              | 1.86   |
| Others                                       | 62.68              | 60.41  |
| Total  | 719.58             | 621.17 |

# 5.21 Other Expenses (Separate Financial Statements)

| 5.22 Staff Welfare Fund Expenses (Consolidated Financial Statements) |                    |        |
|--|--------------------|--------|
|  | Unit: Million Baht |        |
|  | 2017               | 2016   |
| Staff Welfare Expenses   | 260.32             | 253.92 |
| Others   | 0.66               | 0.44   |

260.98

254.36

# 5.23 Provident Fund

Total

On 1st October 1992, the Company calculated the gratuity fund to be paid to staff as of that date at Baht 342.66 million. The Company transferred Baht 173.60 million to the Provident Fund. The remaining amount of Baht 169.06 million had to be transferred within 10 years and/or the remaining working period of the staff with interest at an average one year fixed deposit rate. The Company completed the transfer of all the remaining deferred gratuity funds to the Provident Fund in the Fiscal Year 2002. As of 30th September 2017 there were 3,017 staff members. The Company made a contribution in this period at Baht 449.46 million to the Provident Fund, (which was recorded as staff costs at Baht 447.76 million and cost of production of work order at Baht 1.70 million).

### 5.24 Remuneration for Committees

In accounting period of 2017, the Company paid remuneration to committees as follows:

|  | Baht            |
|--|-----------------|
| 1. Monthly Remuneration to State Enterprise Committe | ee 1,337,170.33 |
| 2. Board of Directors                                | 1,078,750.00    |
| 3. Executive Committee                               | 520,000.00      |
| 4. Audit Committee                                   | 387,096.00      |
| 5. Risk Management Committee                         | 320,000.00      |
| 6. Remuneration Committee                            | 107,500.00      |
| 7. Legal Committee                                   | 97,000.00       |
| 8. Corporate Governance and Social                   | 707,500.00      |
| Responsibility Committee                             |                 |

The remuneration payment was paid to the Company's Board of Directors and the committee representatives from other organizations.

### 5.25 Transactions between the Company and Staff Welfare fund

In the accounting period of 2017, the Company received income and contributed to staff welfare fund at net amount of Baht 283.57 million.

### 5.26 Contingent Liabilities

The Company provides air navigation services and related services according to the agreement with the Ministry of Transport. The Company was exempted for Value Added Tax (VAT) according to the Royal Decree under the Revenue Code Regarding Value Added Tax Exemption (No.239), B.E. 2534 (1991) as Amended by the Royal Decree Issued under the Revenue Code Regarding Value Added Tax Exemption (No.254), B.E.2535 (1992) section 4.

Later the Revenue Department examined the Company in overall aspects from the fiscal year 2003 – 2011 and no issues or observations about VAT on company's income. However, in November 2013 the Revenue Department's officer examined the Company again for the fiscal year 2012 and sent an official letter of examination results later in March 2014 that there is an issue relating to VAT income from work orders to non-airlines customers for the accounting period 2012. Subsequently, the Company has continuously monitored and coordinated with the Revenue Department officer about the issue. Recently, on 10 November 2017, the Revenue Department officer sent an official letter by email to inform the Company of tax payable for the year 2012, incurred from work orders income, equipment rental income, from non-airline customers and income from network services provided domestically that may result in VAT imposed including VAT, penalties and surcharges from the years 2012-2017 (calculating to September 2017) at approximately Bath 240 million. On 13th November 2017, the Company sent a letter no. RA. FA990/2560 dated 13th November 2017 to the Revenue Department inquiring about the results of prior examination of incomes which are not VAT exempt.

Nonetheless, the company is in the process of coordinating with the Director of the Large Business Tax Administration Division of the Revenue Department to consult on the issue.