



**AERONAUTICAL RADIO OF THAILAND LTD.**

**2016 ANNUAL REPORT**

(1 OCTOBER 2015 –30 SEPTEMBER 2016)

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## Message from the Chairman

In the fiscal year 2016, Aeronautical Radio of Thailand Limited (AEROTHAI) continued to develop the air navigation service infrastructure so that Thailand will have the potential to accommodate the growth of flight volume that continues to increase annually. The Company also develop Air Traffic Management System for Thailand in line with the expectation of aviation community and with capacity to accommodate the long-term air traffic growth in the next 15 years by implementing the 5 major strategic issues: Safe and Efficient Air Navigation Service, Creating Professionals, Development Towards High Performance Organization (HPO), Creating Value for Aviation Industry and Stakeholders and Creating National Competitiveness.

AEROTHAI carried out its operations in the fiscal year 2016 according to ICAO Global Air Navigation Plan and Asia/Pacific Seamless ATM Plan including ASEAN Economic Community (AEC). The Company continues to implement Air Navigation Service Infrastructure Development Project, Thailand Modernization CNS/ATM System (TMCS) and the National Aviation System Capacity Enhancement Plan which will enhance the capacity to meet the air traffic volumes both in the Country and Asia Pacific Region.

In implementation of the above mentioned plans, the Company has set a clear policy to collaborate with aviation organizations in the Country and the region. In the fiscal year 2016, there were many major projects that the Company has collaborated with overseas aviation organizations for flexibility in air traffic management on a regional level. In addition, the Company also collaborated with various agencies which included the security and civil sectors to develop the national air traffic management system resulting in many collaborative decisions of all parties concerned in many events and activities throughout the year 2016.

Regarding the outcome of the Company's performance of various functions, it turned out to be positive. These included the withdrawal of capital expenditure budget, the Company's performance, the safety performance, the results of customer satisfaction survey and employee engagement. These reflected the Company's compliance with Good Corporate Governance and Corporate Social Responsibility Policy including the good management.

On behalf of the Board of Directors, who gives 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 assure you that the Company is committed to developing and providing efficient services for the benefits of shareholders and stakeholders.

Air Chief Marshal (Retd)

A handwritten signature in black ink, reading 'Itthaporn Subhawong'. The signature is written in a cursive, flowing style.

(Itthaporn Subhawong)

Chairman of the Board of Directors

### Message from the President

In fiscal year 2016, the aviation business has been growing steadily and increasing in value. The Asia Pacific region was the region with the highest volume of air traffic volume with the average growing rate of 5.7% which was higher than those of Europe and North America. The growth of air traffic volume in Thailand was 9% and is expected to be more than one million flights in 2018.

Aeronautical Radio of Thailand Limited (AEROTHAI) continues to implement important projects under the 2016-2020 Corporate Plan, i.e. the Air Navigation Services Infrastructure Development Project which was approved in principle by the Cabinet on 3 May 2011. The Objective is to develop the infrastructure for providing air navigation services to meet international standards of the new system and have sufficient capacity to handle the volume of air transport which are increasing. The number has a tendency to increase steadily so the Company has managed and installed equipment, system and technology required by the Global Air Traffic Management System by establishing ATM network Management Centre and Flexible Use of Airspace (FUA) with the systematic management of data and fully connected networks. The Company has already procured most of the computers and supporting equipment in 2016. The overall picture of the Air Navigation Services Infrastructure Development Project was that the Company has implemented the installation of systems/equipment and tests of the interconnection of the systems nationwide. In 2017-2018 the Company will test the new system by operating it in parallel with the current system and commissioning the new system thereafter. The procurement of high performance aircraft for flight inspection was completed in March 2016.

The implementation of the above Air Navigation Services Infrastructure Development Project have to be carried out concurrently with the increase of capacity to support the nation's aviation system. In fiscal year 2016, the Company had implemented the National Aviation System Capacity Enhancement Plan by hiring a consultant firm to conduct a study to analyse the Country's aviation system in order to accommodate the growth of flight volume which is rising in 20-year period (2015-2035). The relevant agencies will co-operate in the development of aviation in the Country by drafting joint plans for Airspace System, Airport System as well as other necessary plans that are required to comply with the ICAO Global Air Navigation Plan which are set as a short-term plan (2016), a medium-term plan (2017-2018) and a long-term plan (2018 onwards). In the year 2016, there was a joint study with relevant units to analyse and set guidelines to design airspace for Performance Based

Navigation (PBN) Airspace to enhance the interoperability between the three airports (Don Mueang, Suvarnabhumi and Utapao).

In addition, the Company has also made preparation in accordance with the Universal Security Audit Program (USAP) by communicating the essence and need of Thailand to be prepared for the audit under the Universal Security Audit Program – Continuous Monitoring Approach (USAP-CMA). A Committee has been appointed to oversee the safety standard of air navigation system. Currently the Committee has been working according to plan.

Regarding the progress of the implementation of Universal Safety Oversight Audit Program-Continuous Monitoring Approach (USOAP-CMA), in January 2015, there were 132 findings detected in relation to the Air Navigation Services. The Civil Aviation Authority of Thailand had requested the Company to make correction plan for 17 items. The Company has finished with 6 items while others have been dealt with according to plan and time frame set for 2016-2019.

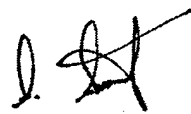
For other major result of the Company's performance, the Company had a safety performance evaluation rate higher than the best average rate in aviation industry. The customer satisfaction survey result in 2016 was higher than 2015 from 3.89 to 3.94. Staff engagement in 2016 was higher than 2015 from 76.7% to 80.7% The evaluation of the Company's performance under the Memorandum of Agreement between the Government and the Company with the State Enterprise Policy Office as the overseer, showed the result of 4.40 from 5 in 2016 which was higher than the previous year.

The Company had managed risks according to the Risk Management and Internal Controls Principles/Guidelines, B.E. 2555 of the State Enterprise Policy Office, Ministry of Finance which was set from risk management of the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The risk manage policy is "Showing Commitment to and Emphasizing the Risk Management and Internal Controls" These include work process, role and duty, responsibility by applying risk management philosophy under 4 sides of risk: Strategic Risk, Operational Risk, Financial Risk and Compliance Risk. In addition, there were external factors that had affect on the Company's operations, such as the increase in the number of flight volume and the flight hazards that tended to increase. The Company have to adjust to cope with the rapid changes of environments so that it can provide air navigation services with standards and maximum safety and efficiency.

In the matter of Business Continuity Management, the Company's business continuity management system was taken seriously. The risk assessment was conducted for likelihood of occurrence that may affect the Company's core function. Risk management exercises were carried out with set up scenario, at the central and all provincial Air Traffic Control Centres so that the Company is well prepared for any event that may occur.

In 2016 the Company received a credit rating review from TRIS Rating affirmed at "AAA" (Triple A). The rating continued to reflect the air services that are of strategic importance to the Country as well as good safety record, high liquidity and experienced management.

On behalf of the Company and its employees, we thank shareholders, service users and stakeholders who have always given trust and supported the Company's operations. We assure you that the Company is ready to provide services and develop the Air Navigation System for safety with high efficiency and to enhance benefits to the national and regional aviation.



(Mrs. Sarinee Angsusingha)

President



## **Corporate Information**

### **Company's 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 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 the International Civil Aviation Organization's (ICAO) standards and recommended practices.

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

International airlines operating services to Thailand were also welcomed as the shareholders. The Company's status has then 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 business sector which provides aviation related services both domestic and overseas.

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

## Vision, Mission and Role and Responsibilities

### Vision

“Move up quality to become one of the leading and most sustainable ANSPs in ASEAN”  
(Vision for AEROTHAI development and operations in the strategic framework 2016-2020.)

### Mission

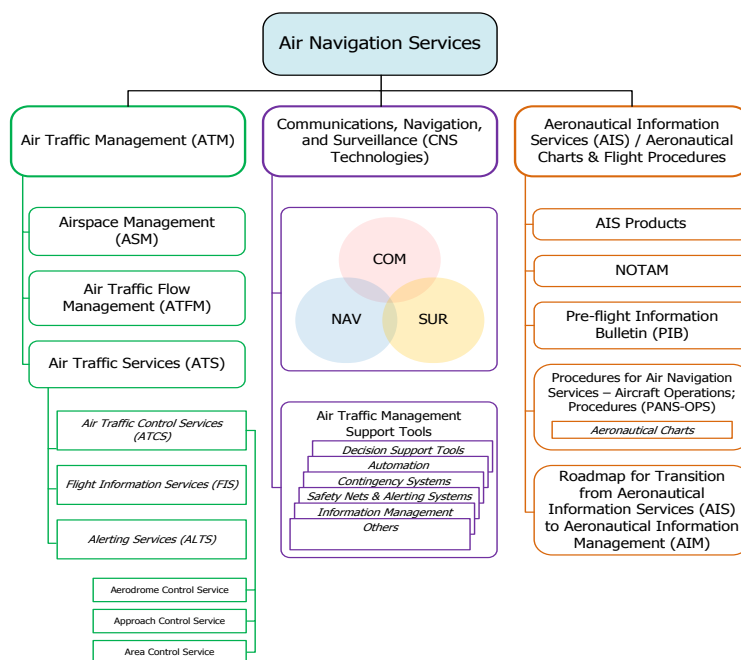
“To be the national air navigation service provider that meets users’ requirements in safety, standards, and efficiency while realizing the responsibilities to all stakeholders and national interests.”

### 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

Included also is the related aeronautical communications service to airline operators, and other works assigned by the government.



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

The Company provides air navigation services within the Bangkok Flight Information Region with Aerodrome Traffic Zone (ATZ) at 35 airports, Terminal Control Area (TMA) at 36 areas nationwide (remark: for Pattani airport, the Company has transferred the ATZ service to the military unit but continued to provide TMA service) including Area Control for ATS routes utilizing the Air Traffic Management System, Communications, Navigation and Surveillance System (ATM/CNS). The summary of core 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 aircraft 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 head office or at the airports.
    - Area Control Service, providing the control service to all controlled flights flying in Bangkok FIR. Area Control Centre (ACC) is located at AEROTHAI head office.
  - 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 unit used by air traffic controllers and pilots.
- (ii) Navigation System: for provision of navigation of the aircraft 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 provision of location, co-ordinates and height level of the aircraft in order to provide the information and to follow the aircraft's route for air traffic services. The system consists of the types that are used for aerodrome, approach and en route air

traffic services, as well as those used to keep track of the aircraft and vehicles moving on the airport surface.

Included also is the provision of ATM Automation/Support Tools, e.g. Flight Data Processing System (FDPS), Surveillance Data Processing System (SDPS), etc., 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. In addition, the Company uses its expertise and research and development (R&D) capability to provide other related services to further fulfill customers' requirements within aviation industry. It has changed from manufacturing equipment or supporting services for use within the organization instead of procuring them from overseas which are expensive to manufacturing equipment and providing supporting services to airlines and air transport operators.

The Company's related services are aviation related services (communication equipment for airlines, communication network, manufacture and development, flight inspection, training and consultant, Airlines Operational Communication (AOC), test equipment calibration, etc.), logistic related services (design and develop vessel traffic management system (VTMS), etc.) and other related services (design, procure and install information and communication system for the National Crisis Management Centre, improve communication system (coast station) for the Naval Communications Department, etc.).

## **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 system development that will increase the country's competitive capability as well as to promote private sectors' role.

### Corporate Policy

To develop networks, equipment and work systems to be modern with quality and sufficient as well as to provide services with safety, rapidity, punctuality, meeting international standards and increasing potential to seek income from related services.

### Principle and Guidelines to Operate under SODs

#### Short-term Plan

(i) To enhance air navigation service infrastructure in order to support Thailand air traffic growth capably in 2015.

(ii) To accelerate the implementation of measures to reduce debt burden according to the Government's resolution.

(iii) To hasten cost of employees' expenditure structure improvement to be in a suitable proportion while maintaining the services proportion that will not affect the safety standards.

#### Long-term Plan

To develop Air Traffic Management System for Thailand in line with the expectation of aviation community and with capacity to accommodate the long-term air traffic growth in 2020.

## Corporate Plan

Under the vision “Move up quality to become one of the leading and most sustainable ANSPs in ASEAN” which includes significant corporate mission of providing air navigation services, quality management across the enterprise for security and sustainability, and self-assessment based on quality assessment system for state enterprises, AEROTHAI's strategic development and operations in the period 2016-2020 are as follows:

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

## Company's Services

AEROTHAI, as a state enterprise under the Ministry of Transport, has been assigned by the Ministry of Transport 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 the Government, AEROTHAI agrees 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: [www.aerothai.co.th](http://www.aerothai.co.th)

#### 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



**Summary of Financial Report**

	2016	2015	2014
Operating Performance (Baht : Million) <sup>1/</sup>			
Total Income	11,638.93	10,773.38	9,557.13
Total Expenditure	9,276.06	8,863.97	7,801.54
Overcollection to be refunded to Member Airlines	2,362.87	1,909.41	1,755.59
Remark:	1/ Separated Financial Statements		
Financial Status (Baht : Million) <sup>2/</sup>			
Total Assets	13,385.61	12,089.96	9,862.69
Total Liabilities	12,465.33	11,200.73	9,007.61
Total Shareholders' Equity	920.28	889.23	855.08
Financial Ratio			
Debt-to-Equity Ratio (times)	13.55	12.60	10.53
Debt-to-Equity Ratio (times) (Not including accumulated Overcollection)	7.19	8.25	7.85
Fixed Charge Coverage Ratio (times)	1.44	1.21	1.08
Remark:	2/ Consolidated Financial Statements		

## Factor Impacting Performance

### 1. ICAO's Global and Regional Air Navigation Plans

ICAO developed the Global Air Navigation Plan (GANP, Doc. 9750), whose 4<sup>th</sup> edition consists of strategic guideline for global air navigation system, in the form of Aviation System Block Upgrades (ASBUs). ASBUs consist of 4 Performance Improvement Areas (PIA):

- 1) Airport Operations,
- 2) Globally interoperable Systems and Data – through globally interoperable SWIM,
- 3) Optimum Capacity and Flexible Flights – through global collaborative ATM,
- 4) Efficient Flight Path – through Trajectory-based operation.

From the said global development plan, ICAO developed the Asia/Pacific Seamless ATM Plan that aims for prioritization the development of Air Traffic Management (ATM) in the region. The APAC Seamless plan clearly indicates the Preferred Aerodrome/Airspace and Route Specifications (PARS), the Preferred ATM Service Levels (PASL) and other important regional and global factors, including human factor as well as the military and civil collaboration. AEROTHAI set its strategic objectives and strategies in accordance with ASBUs and APAC Seamless ATM Plan, and have been deploying the concerned development continuously.

Additionally, in September 2016, Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG) in its 27<sup>th</sup> meeting has endorsed the APAC Seamless ATM Plan, Version 2.0, which was revised based on the plan to update the 5<sup>th</sup> edition of GANP/ASBUs in the 39<sup>th</sup> Session of the ICAO Assembly in October 2016. The revised APAC Seamless ATM Plan has extended the target implementation date from 2018 to 2019, and integrated some regional areas based on ASBU Block 1 Modules that States should consider implementing. As such, AERTOHAI will incorporate such revised APAC Seamless ATM Plan into AEROTHAI strategies and implementation accordingly.

### 2. ASEAN Economic Community (AEC)

ASEAN is currently undergoing the transition to become AEC. In the area of air transport, ASEAN plans to establish ASEAN Single Aviation Market (ASAM) to support AEC's objective in harmonizing airspace of member states to ensure safe, secure, and efficient air transport within ASEAN and beyond. In 2016, ASEAN is in progress on the development of the ASEAN ATM Master Plan, which supports the final process of ASAM establishment. Such task is one of the key activities under ASEAN Transport Strategic Plan (ATSP) 2016-2025. Additionally, AEROTHAI has continuously supported activity under Air Transport Strategic Goal of ATSP 2016-2025, which is to enhance ATM efficiency and capacity through a Seamless ASEAN Sky, whereby AEROTHAI has supported activity by Thailand delegation in ASEAN forum. For example, support ICAO's efforts

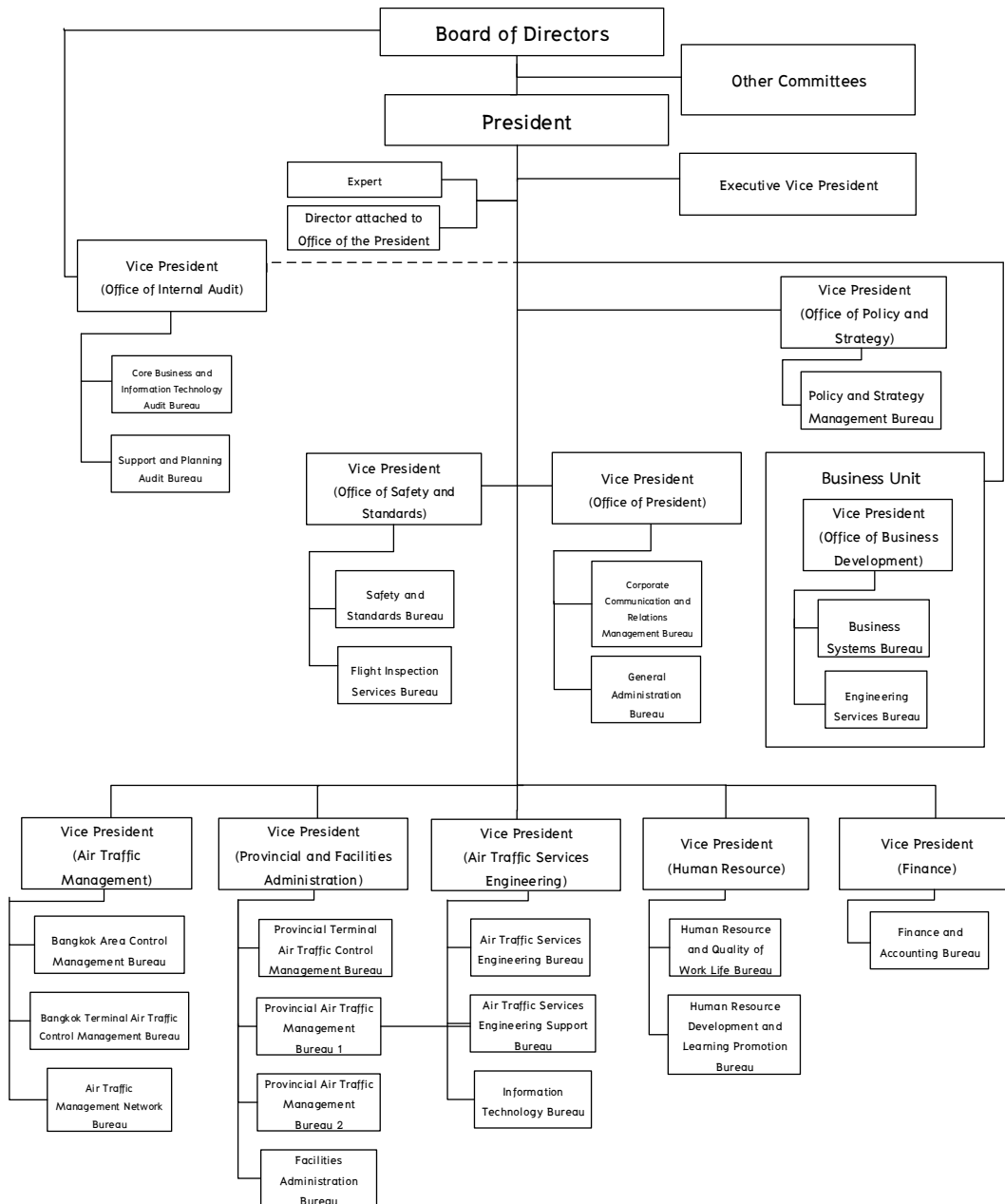
and implementation plan for ATM in the APAC region, exchange information on ASEAN air navigation infrastructure and services, etc.

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

The outlook of aviation industry and future trends of air traffic illustrates that the aviation industry is one of the industries with increasing growth and value. Airbus forecasts that air traffic will grow at the estimated annual growth rate of 4.5% during the period of 2016-2035 (the next 19 years), and air traffic will double itself every 15 years. In fact, the forecast also indicates that Asia/Pacific region will experience the highest annual growth rate at the rate of 5.7%, which is higher than the rates of Europe and Northern America.

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 average annual growth rate of 7%, or accumulative 10-year rate of 50% (compared 2016 with 2007). In 2016, total air traffic in Bangkok FIR was 909,066 flights which were 9% increase from the previous year (831,910 flights). It is expected to reach 1,000,000 flights in 2018 (2 years from now).

In the fiscal year 2016, there might be several incidents that could affect or divert the actual air traffic volume from the forecast. These incidents can be categorized into positive factors (result in higher air traffic volume) and negative factors (resulting in lower air traffic volume). Some of these incidents will require close monitoring in order to evaluate their effect such as the growth of low-cost airlines, Chinese tourism trend to Thailand as well as Thailand's audit results from the Universal Safety Oversight Audit Program–Continuous Monitoring Approach (USOAP-CMA).



## Functions

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

1. Office of President is responsible for good corporate governance and social responsibility, code of conduct, support the Boards of Directors and shareholders, legal matters, procurement, documentation and secretary, communications and stakeholders' relationship management.

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

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

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

5. 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 Flight Information Region (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 develop and administer 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 and 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

At the end of fiscal year 2016, the Board of Directors comprised of: (Additional details and changes of Directors during the year was shown in Section 2)

- |   |               |
|---|---------------|
| 1. Air Chief Marshal (Retd) Itthaporn Subhawong | Chairman      |
| 2. General Kanit Sapitaks                       | Vice Chairman |
| 3. Mr. Prasit Suebchana                         | Director      |
| 4. Mr. Puttipong Prasarttong-Osoth              | Director      |
| 5. Mr. Chaicharearn Atibaedya                   | Director      |
| 6. Colonel Peerawat Promkladpanao               | Director      |
| 7. Mr. Pongsak Somchai                          | Director      |
| 8. Mrs. Sarinee Angsusingha                     | President     |

## The Board of Directors



Air Chief Marshal (Retd) Itthaporn Subhawong  
Chairman



General Kanit Sapitaks  
Vice Chairman



Mr. Prasit Suebchana  
Director



Mr. Puttipong Prasarttong-Osoth  
Director



Mr. Chaichaream Atibaedyai  
Director



Colonel Peerawat Promkladpanao  
Director



Mr. Pongsuk Somchai  
Director



Mrs. Sarinee Angsusingha  
President

## Company's Management



Mrs. Sarinee Angsusingha  
President



Mr. Somnuk Rongthong  
Executive Vice President



Mrs. Onurai KomainN  
Executive Vice President



Mr. Tinnagorn Choowong  
Executive Vice President



Mr. Suttipong Kongpool  
Expert,  
Executive Vice President Level



Miss Duangta Samitsuwan  
Vice President  
(Office of the President)



Mrs. Chidkamol Soonthornsit  
Vice President  
(Office of Internal Audit)



Mr. Sukluer Chaiwarcheep  
Vice President  
(Office of Policy and  
Strategy)



Mr. Channarong Chuacharoen  
Vice President  
(Office of Business  
Development)



Mr. Channan Ruechai  
Vice President  
(Office of Standards and  
Safety)



Mrs. Sirikes Nemloy  
Vice President  
(Air Traffic Management)



Mr. Waravut Raphiphan  
Vice President  
(Provincial and Facilities  
Administration)



Mr. Nuttawat Supanuntha  
Vice President  
(Air Traffic Service Engineering )



Miss Tipaporn Nippakakom  
Vice President  
(Human Resource)



Miss Waraporn Songcharoen  
Vice President  
(Finance)



Mr. Teekayu Muratha  
Expert, Vice President Level



Mr. Chatri Sasipayungsak  
Expert, Vice President level



Mr. Chatree Kimanunta  
Director attached to Office of  
The President, Vice President Level



## Company's Senior Management

### 1. Mrs. Sarinee Angsusingha

Present Position: President  
 Date of Birth: 5 June 1959  
 Age: 57 years 3 months  
 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:

- Administrative Justice Management Course for Senior Executive (Class of 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 President  
 Date of Birth: 7 July 1961  
 Age: 55 years 2 months  
 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)
- Advanced Management Program (AMP), Wharton, University of Pennsylvania (Year 2013)

Work Experience:

- Year 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:                            58 years 9 months

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 of 4), Year 2005
- Executive Finance Management Program (Class of 4), Year 2013

Work Experience

- Year 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 years

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 2013)
- Leadership Succession Program (LSP), IRDP (Class of 3 in 2015)

Work Experience:

- Year 2015-Present                      Executive Vice President
- Years 2012-2015                      Vice President (Air Traffic Management)

**5. Mr. Suttipong Kongpool**

Present Position:                      Executive Vice President

Date of Birth:                              14 January 1966

Age:    50 years 8 months

Starting Work:                              1 July 1990

Education:

- Bachelor of Communication Arts, Bangkok University

Additional Education Qualifications:

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

Work Experience:

- Year 2015-Present                      Expert, Executive Vice President Level
- Years 2012-2015                      Vice President (Policy and Strategy)

### Human Resource and Organization Development

As of 30 September 2016, the total number of staff employed by AEROTHAI was 2,973 distributed as follows:

Head Office	1,596
Suvarnabhumi Airport	391
Don Mueang International Airport	143
Phuket Air Traffic Control Center	162
Hat Yai Air Traffic Control Center	124
Surat Thani Air Traffic Control Center	97
Hua Hin Air Traffic Control Center	51
Chiang Mai Air Traffic Control Center	142
Phitsanulok Air Traffic Control Center	102
Udon Thani Air Traffic Control Center	80
Ubon Ratchathani Air Traffic Control Center	46
Nakhon Ratchasima Air Traffic Service Engineering	39
Operating Center	

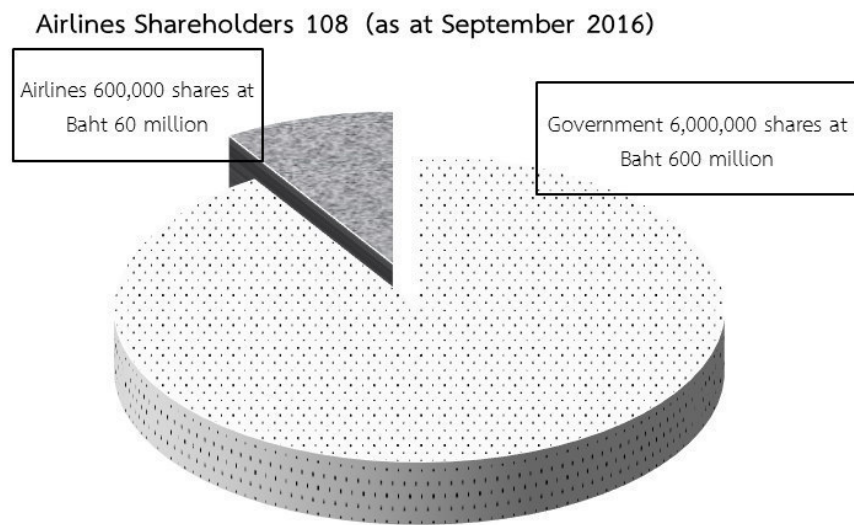
As of 30 September 2016, the total number of temporary employees employed by AEROTHAI was 34.

### Total Staff and Contracted Employees Expenditure

Unit : Million Baht

Description	2016	2015	2014
Staff's Expenditures and Benefits	6,941.14	6,469.97	5,618.41
Temporary Employees Expenditures	9.89	10.14	9.55

## Share Capital and Shareholders Structure



In the fiscal year 2016, 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	2,744
2	Aeroflot Russian Airlines	1,280
3	Air France	274
4	Air Hong Kong Ltd.	549
5	Air India	1,280
6	Thai AirAsia Co., Ltd.	103,895
7	Srilankan Airlines Limited	1,921
8	Air Macau Co., Ltd.	1,829
9	All Nippon Airways Co., Ltd.	2,561
10	Austrian Airlines AG	640
11	Indonesia Air Asia	2,927
12	Air Asia Sdn Bhd	13,170

		No. of shares
13	British Airways	640
14	Biman Bangladesh Airlines	640
15	Bangkok Airways Public Co., Ltd.	55,697
16	Aerologic GMBH	549
17	Bhutan Airlines (Tashi Air Pvt. Ltd.)	640
18	China Airlines Ltd.	3,658
19	Beijing Capital Airlines	1,098
20	Air China	3,933
21	Cebu Pacific Air	1,098
22	China Eastern Airlines	10,060
23	Hainan Airlines Co., Ltd.	1,646
24	China Cargo Airlines	549
25	Cargolux Airlines Int'l S.A.	274
26	Cathay Pacific Airways	6,402
27	Spring Airlines	5,487
28	Hong Kong Airlines Ltd.	5,030
29	Sichuan Airlines	3,110
30	Shanghai Airlines	5,122
31	China Southern Airlines	13,261
32	Shenzhen Airlines	5,122
33	Delta Air Lines Inc.	640
34	Junyao Airways Co.Ltd.	7,317
35	Lufthansa German Airlines	640
36	Maldivian	1,098
37	Druk Air	640
38	Eastar Jet	1,921
39	Etihad Airways	3,110
40	Ethiopian Airlines Corporation	1,280
41	EVA Airways Corp.	3,475
42	Federal Express Corp.	1,189
43	Finnair Oyj	640
44	Gulf Air B.S.C. (C)	640
45	Garuda Indonesia	1,829
46	Hong Kong Dragon Airlines Ltd.	1,921

		No. of shares
47	Hong Kong Express Ltd.	1,463
48	Vietnam Airlines	3,841
49	InterGlobe Aviation Ltd.	1,280
50	Mahan Air	549
51	Jet Airways (India) Ltd.	3,201
52	Japan Airlines Co., Ltd.	3,201
53	Jeju Air	1,921
54	Jin Air	640
55	JetStar Asia Airways Pte Ltd.	4,664
56	Jetstar Airways Pty Ltd.	1,006
57	Jetstar Pacific Airlines	1,280
58	Kuwait Airways Corporation	1,098
59	Korean Air	3,750
60	Cambodia Angkor Air Co., Ltd.	640
61	KLM Royal Dutch Airlines	640
62	K-Mile Air Co.,Ltd.	915
63	Kannithi Aviation Co.,Ltd.	4,390
64	Air Koryo	91
65	Kenya Airways Ltd.	1,280
66	Air Astana JSC	640
67	Lao Airlines	2,652
68	Myanmar Airways International	1,280
69	Malaysian Airlines Berhad	6,402
70	Egypt Air	915
71	Malindo Air	1,921
72	Norwegian Air Shuttle SAS	274
73	Nippon Cargo Airlines Co., Ltd.	549
74	Nokscoot Airlines Co.,Ltd.	2,012
75	Nok Airlines Plc.	66,763
76	Orient Thai Airlines Co., Ltd.	3,201
77	Okay Airways Company Limited	1,372
78	Oman Air (SAOC)	1,280
79	Philippine Airlines	1,555
80	Qantas Airways	640

		No. of shares
81	Qatar Airways	3,567
82	Royal Brunei Airlines Sdn Bhd	732
83	Air Austral	91
84	Regent Airways	366
85	ALIA- The Royal Jordanian Airlines	1,280
86	Nepal Airlines Corporation	274
87	Siberia Airlines	640
88	Spice Jet Limited	1,189
89	Singapore Airlines	3,841
90	SilkAir (Singapore) Private Ltd.	4,756
91	Singapore Airlines Cargo Pte Ltd.	457
92	Siam Air Transport Co.,Ltd.	2,927
93	Swiss Int'l Air Lines	640
94	Thai AirAsia X Co.,Ltd.	3,018
95	Tiger Air	6,219
96	Thai Airways International Plc.	66,352
97	Thai Smile Airways Co.,Ltd.	29,952
98	Turkish Airlines Inc.	1,921
99	Thai Lion Mentary Co.,Ltd.	37,680
100	T'Way Air Co.,Ltd.	640
101	Emirates	11,203
102	Myanmar National Airlines	1,280
103	United Airways (BD) Ltd.	183
104	United Parcel Service Co., Ltd.	457
105	Uzbekistan Airways	183
106	V Air Corporation	1,097
107	Sabaidee Airways Co.,Ltd.	5,122
108	VietJet Aviation Joint Stock Company	3,201
	Total B shareholders	600,000

Remark: Names of Shareholders allocated shares on 1 August 2016



## State Enterprise's Loans

Unit: Million Baht

Bank	Amount	Balance as at 30 September			Type of Guarantee
		2016	2015	2014	
Thai Bank	850.00		-	85.00	none
Krung Thai	1,390.28	-	462.28	578.28	none
Siam Commercial	1,519.55	-	531.05	662.85	none
Krung Thai	1,100.00	-	548.80	633.60	none
Government Savings	1,650.00	824.89	951.83	1,078.77	none
Government Savings	1,200.00	-	900.00	1,000.00	none
Government Savings	3,480.00	1.00	1.00	1.00	none
Krungsri	2,075.43	2,075.43	-	-	none
<b>Total</b>	<b>13,265.26</b>	<b>2,901.32</b>	<b>3,394.96</b>	<b>4,039.50</b>	

## Major Plans and Projects

AEROTHAI has major plans and projects as contained in the Corporate Plan 2016-2020 as follows:

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

(Implementing Years 2012-2018 with investment budget of Baht 4,460.31 million)

Air Navigation Service Infrastructure Development Project was approved in principle by the Government on 3 May 2011 with investment budget of Baht 4,460.31 million. The objective is to develop infrastructure for air navigation service of Thailand in order to be in line with the international standards of the new system and with sufficient 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 air traffic management hub of Thailand and connect with neighboring countries. The system will enhance AEROTHAI ability in providing air traffic control service on all airways across Thailand with new concept of operation that is supplemented by new elements of airspace management and air traffic flow management in the efficient, automated, and environmental friendly concept, while maintaining highest level of safety as priority.

## (2) CNS System Enhancement and ATM Network Integration

To enhance nation-wide communications, navigation, surveillance infrastructure, as well as the network of information/data for air traffic management between the headquarter and provincial units across the Country within the same level of capability and standards, thus ensuring the fullest extent of safety, efficiency, and capacity in the service to passengers and airlines/airspace operators.

## (3) Procurement of High Performance Flight Inspection Aircraft

To meet demand of 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 has been acquired in March 2016.

In 2016, AEROTHAI has completed the installation as well as system integration and system continuity testing activities of the newly acquired air traffic management system in this project. Plans for 2017-2018 will include parallel operation phase, with both current and new systems running concurrently, and transition into full operation of the new system.

## **2. Establishment of ATM Network Management Centre (ATM NMC)**

(Implementing Years 2014-2017 with 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. Establishment of ATM Network Management Centre is planned for this very purpose. In doing so, airspace capacity optimization, increased level of safety, as well as reduced air traffic controllers' workload are hoped to be achieved. In 2016 acquisitions of computer hardware and supporting equipment for this new ATM Network Management Centre are mostly completed.

### **3. Acquisition and Installation of additional Controller Working Positions (CWPs) for air traffic control centres at Thungmahamek and Suvarnabhumi International Airport as well as Independent Backup System (IBS)**

(Implementing Years 2015-2017 with investment budget of Baht 368.31 million)

Air traffic controllers experience rapid increase in workload 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 into the future, as well as alleviate controllers' fatigue issues arising from increased workload.

According to the concept of system security, AEROTHAI also needs to have offsite backup system in order to ensure continuity of service provision. Additional CWPs are therefore needed for our Independent Backup System in order to have capability to provide required service.

In 2016, additional CWPs were in the process of being acquired, while associated Voice Communication Control System (VCCS) equipment was in the process of being delivered.

### **4. National Aviation System Capacity Enhancement Plan**

(Implementing Years 2015-2018 with investment budget of Baht 326.29 million)

Currently, the need to utilize the Country's airspace has increased from both the security and civil sectors. It is necessary to manage and jointly use the airspace for maximum benefit. The international management concept is to establish a Civil Military Air Traffic Management Coordination (CMAC) Centre by applying the Flexible Use of Airspace (FUA) concept. Implementation can be carried out in 3 levels: Strategic, Pre-Tactical and Tactical.

Thailand has to consider the above factors, the growth of flight volume as well as various international plans in order to accelerate the implementation according to the set timeframe so that the Country's aviation system will be suitably developed in the right direction with international standards.

To prepare for the situation which will occur, AEROTHAI as the Country's main Air Navigation Services Provider, has to set the airspace development in the Bangkok Flight Information Region as well as collaboration with other units to jointly develop other aviation systems by putting it in the National Aviation System Capacity Enhance Plan with the following objectives:

1. To integrate collaboration amongst related organizations and drive for the Country's aviation systems to reach sustainable international standards.

2. To improve the capacity of the aviation systems which include airspace system and airport system with implementation suitably carried out towards the same direction according to international standards and be in line at all times.

The objective is that the Country's aviation systems can accommodate the growth of flight volume which is expected to increase in 20 years (2015-2035). It will result in the capacity to accommodate the air traffic volume in the Asia Pacific region. Relevant organizations concerned have collaborated to develop the national aviation systems which include Airspace System, Airport System and other necessary plans. They will collaborate to develop the national aviation systems to cover the development of airspace on all airways within the Bangkok Flight Information Region (FIR). In doing so, the airspace of the Mekong Countries (Myanmar, Lao PDR, Vietnam and Cambodia) has to be considered as one of the factors and it includes the development of airports and airspace over 37 commercial airports.

In the fiscal year 2016, the Company signed a contract to hire a consultant firm to analyze and design aviation system for the Project on 30 September 2016.

#### **5. 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 Years 2011-2018 with investment budget of Baht 286.53 million)

Following the Government's policy to provide full service at Don Mueang International Airport again, the number of low cost airlines operating at Don Mueang has increased and the air traffic volume has continued to grow. AEROTHAI underwent a construction of a new air traffic control tower at the Airport for the operations to replace the existing tower with the installation of new and modern air traffic control systems/equipment in order to provide information for use in air traffic control as well as to provide situational awareness on aircraft and vehicles in the Airport to increase the safety in Airport surface operation and to link information automatically and to interoperate with both the air traffic control tower at Suvarnabhumi Airport and Bangkok Area Control Centre. 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. Plans for 2017-2018 will include parallel operation phase, with both current and new systems running concurrently, and transition into full operation of the new system.

#### **6. Acquisition of Doppler Very High Frequency Omni-directional Range/Distance Measuring Equipment (DVOR/DME) at Nakhon Phanom, Ranong, Nakhon Ratchasima, Don Mueang and Samui Airports**

(Implementing Years 2014-2016 with investment budget of Baht 125.17 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 needed to acquire new DVOR/DME systems at these 5 Airports in order to replace the existing aged systems. In 2016, installation and testing have been completed at all 5 Airports and the new systems are already in operation now.

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

(Implementing Years 2015-2017 with investment budget of Baht 112.68 million)

MLAT system utilizes new technology to provide surveillance data that includes aircraft and vehicle identifications as well as their highly accurate positions. AEROTHAI chooses 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 incursion.

In 2016, suitable MLAT coverage area was evaluated in accordance with Airport development plan for these 2 airports.

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

(Implementing Years 2015-2017 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 acquisition of DVOR/DME systems at these 4 airports was in progress.

## **9. Acquisition of network equipment to support Multilateration (MLAT) systems at Phuket and Chiang Mai Airports**

(Implementing Years 2015-2017 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 appropriate communication network infrastructure in order to support the efficient air traffic service.

In 2016, suitable MLAT coverage area was evaluated in accordance with airport development plan for these 2 airports, and some supporting network equipment was acquired.

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

(Implementing Years 2015-2017 with investment budget of Baht 27.98 million)

ILS/DME systems that have exceeded 15 years of usage showing signs of degraded performance and requiring additional emergency corrective maintenance and need replacement. AEROTHAI therefore needs to acquire new ILS/DME system at Don Mueang International Airport in order to replace the existing aged system on Runway 21L. In 2016, acquisition of ILS/DME system for Don Meuang International Airport was in progress.

## **11. Strategic Work to Support 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, who has played important roles in considering/proposing/executing in ATWG to support the work under ASAM Roadmap. In 2016, AEROTHAI together with ASEAN Member States are in progress of developing 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.

## Major Investment Projects for the Next 3 Years

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

(Implementing Years 2014-2019 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 substitute working space for employees who have to move out of their current temporary working space in 60<sup>th</sup> Anniversary Building when the new Air Traffic Management Centre (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 2016, AEROTHAI was in the process of acquiring consultancy service for design and production of construction plan of the AEROTHAI Complex building.

### **(2) Acquisition of Doppler Very High Frequency Omni-directional Range/Distance Measuring Equipment (DVOR/DME) at Lampang, Narathiwat, Phetchabun, Roi Et, Nakhon Si Thammarat, and Surat Thani Airports**

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

DVOR/DME systems that have exceeded 15 years of usage showing signs of degraded performance and requiring additional emergency corrective maintenance and need replacement. AEROTHAI therefore needs to acquire new DVOR/DME system at these 6 Lampang, Narathiwat, Phetchabun, Roi Et, Nakhon Si Thammarat, and Surat Thani Airports in order to replace the existing aged systems. In 2016, technical specifications were drafted for acquisition process.

## **Organizational development in the field of information technology**

AEROTHAI is well aware of the use of information and communication technology system to facilitate the operations in various fields. This is one of Company's strategic key in order to achieve the goal of highly integrated development by reducing duplication of data and increase work performance which includes:

1. Develop and improve appropriate information and communications technology infrastructure.
  - Install Site-to-Site. VPN link at Thungmahamek headquarters and all provincial air traffic control towers in order to improve network communication system.
  - Increase WLAN service which improves signs in the airless space.

- Install Network Access Control (NAC) to control network access of the Company ICT in order to maintain standard of network security access by following network standard ISO27001 and comply with related legal security of information systems.
  - Modify Firewall Gateway by replacing old equipment at provincial air traffic control centres.
  - Install back-end operations support system and information systems for the Company's staff on new hardware. Similarly, to install backup for support of the large size of processing and storage to make sure that the Company's services can be provided with no disruption by setting up the backup system.
  - Maintenance of information technology system for protection and prevent any problems caused by computer viruses, spam and attacks in other forms.
2. Empowering the operations of the Company by using ICT.
- Improve electronic mail system and electronic document system for more effectiveness in order to increase efficiency in communications and document process as well as reducing the use of paper.
  - Deliver the Smart Phone and Tablet applications which allow all management to access e-mail and electronic document via internet so that they can work even outside the workplace.
  - Develop Human Resource Information System (HRIS) to optimize the management of human resources as a whole from input system, storage and data processing, as well as the preparation of the report. By that way the data was analyzed and prepared as useful information for management planning and decisions making about human resources of the Company. It also provides the self-service system that employees can use (Employee Self Service).
  - Develop Project Management System (PMS) to monitor project progress, which help management to track the project target.
  - Develop information system security assessment in order to support the analysis and assessment of the severity of the incident relating to flight safety which meets the international standards and internationally recognized.
  - Develop Business Process Management System (BPMS) to facilitate contact for service and maintenance of radio communications especially the Trunked Radio in order to raise the level of customer satisfaction with services provided at various airports across the Country.
  - Develop and improve information systems for strategic decisions (Business Intelligence) and financial decision (Financial Intelligence), as a tool to support



data both in width and depth needed for management decisions. (Decision Support System)

3. Develop electronic services for support to the Company's stakeholders in all sectors by providing the information and communications technology integration.
  - Develop and improve the capacity of information services to support information management for the Company's executives by providing the automation of information processed and presented. This ensures that the data is accurate and reliable for executives to make decision and solve the problems.
  - Develop and improve the services to employees for the dissemination of information and public relations activities by collecting the knowledge for the Company to improve the level of information which makes it complete, accurate and timely so as to reduce its duplication.
  - Bring Web Video Conference System applications for meetings which allow management to be able to communicate and make teleconference even when they are outside the normal workplace.
  - Use system for communication and dissemination of information through GovChannel following the Government's policies such as the G-Chat, G-Info, G-News and Open Government Data.
  - Develop a website to disseminate information to the public and also use the website to collect comments, suggestions and complaints over a complaints system in the website.
4. Develop and support staff to have knowledge and skills in information and communications technology.
  - Promote personnel development courses by focusing on the knowledge of using information and communications technology in order to improve their performance effectively.
  - Raise awareness of the use of information technology and communications based on security sufficiently.
  - Strengthen the capacity of employees to keep pace with rapidly changes in technology (Disruptive Technology) by following the Country's development plan which bring the Country towards Thailand 4.0, the Economic and Social Development Plan for Digital (Digital Economy and Society).

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

### 1. CANSO Global Benchmarking Workgroup

AEROTHAI hosted the Civil Air Navigation Services Organization (CANSO) Benchmarking Workgroup or CANSO GBWG between 30 March – 1 April 2016 at the Turquoise Room, 8<sup>th</sup> floor, Aetas Lumpini Hotel. CANSO GBWG is biannual meeting that brings together CANSO members with benchmarking experts from around the world, sharing their views interactively during the meeting. The resulted indicators and performance-to-date are then up for discussion in the GBWG floor which is then reflected in the Global ANS Performance Report. The findings and the suggestions are noted and will be used as reference to improve the report for the following year.

The Meeting went well and was successful according to the objective of collaboration with CANSO. It was targeting to increase the participation of the Asia-Pacific CANSO members, of which AEROTHAI was usually the sole participant from the region. The Meeting has exceedingly achieved its goal with not only the attendance by members from North and South America and Europe; Iceland, Canada and members from CANSO and Helios, but also members from Middle East, Africa and Asia; namely Saudi Arabia, New Zealand, Indonesia, South Africa, Singapore, Cambodia, Papua New Guinea and India, that many are considered as their first attendance to the meeting.

AEROTHAI has maximized this opportunity and included AEROTHAI personnel to attend the Meeting. The AEROTHAI officers participated are those involved in composing/analyzing the data for GBWG and consequently the Global ANS Performance Report itself from the Department of Finance, Department of Human Resource, and Air Traffic Controllers from ACC/APP/TWR, officers who also benefit from the collected data; as such the Best Practices Task Force, including Productivity and Cost Effectiveness Task Force, and officers who are representatives in the related CANSO workgroups; such as Human Resource Working Group (HRWG) and Operations Standing Committee (OSC). The objective is for our officers to obtain a clear understanding on the importance of their work and their analyzed data, not just for the report but to the aviation community as a whole. This occasion also allows the AEROTHAI officers to network with fellow ANSPs from around the world to broaden their perception and enhance their future professional relations between our organizations.

## **2. The Fourth Bangladesh, India, Myanmar and Thailand ATM Coordination Group Meeting (BIMT – ATM/CG/4)**

AEROTHAI hosted the Fourth Bangladesh, India, Myanmar and Thailand ATM Coordination Group Meeting (BIMT – ATM/CG/4) in Bangkok, Thailand between 17-19 August 2016 at AETAS Lumpini Hotel. This forum was convened to discuss and collaborate on Air Traffic Management (ATM) coordination issues between 4 countries with adjacent airspace including Bangladesh, India, Myanmar and Thailand. The main purpose of the Meeting is to drive the region towards a fully harmonized regional air traffic management and to discuss and agree on several initiatives such as route structure to enhance air traffic flow in the region.

The Meeting agreed on the proposed change of BOBCAT terminologies to match those of global Air Traffic Flow Management (ATFM) standards, particularly introducing the use of Calculated Take-Off Time (CTOT) in place of the existing Allocated Wheels-Up Time (AWUT). Also, MAAR proposed online Large Height Deviation (LHD) reporting system, which will ensure LHD reports are automatically sent at the time of submission to all relevant ATS units as well as MAAR and BOBASMA. Additionally, the Member States agreed on the implementation of new RNAV ATS routes L524, M506 and L877 during Phase 1 of BIMT Route Structure Development Initiative. In Phase 2, the Meeting will discuss the fully use of new route structure in the next BIMT meeting.

## **3. The 24<sup>th</sup> Aviation Consultative Committee (ACC)**

AEROTHAI hosted the 24<sup>th</sup> Aviation Consultative Committee (ACC) Meeting between 25-27 July 2016 at the Grace Amphawa, Samut Songkhram Province. AEROTHAI and the Department of Civil Aviation Malaysia (DCA Malaysia) have established an ACC as a standing committee which meets twice a year. This floor serves to ensure mutual understanding and cooperation on Air Traffic Management (ATM) between the two neighboring countries as well as cooperation implementation from the previous meetings and agreements between the two organizations.

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

#### **4. Distributed Multi-Nodal CDM/ATFM Network Project Meeting**

AEROTHAI and the Civil Aviation Authority Singapore (CAAS) have agreed to host series of every other meeting - the Distributed Multi-Nodal ATFM Operational Trial. This year AEROTHAI hosted the 4<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, 9<sup>th</sup> and 11<sup>th</sup> Meetings between 26-27 March 2015 and 18-19 June 2015 at AETAS Lumpini, Bangkok, 15-16 September 2015 at Amara Hotel & Resort, 22-25 February 2016 at Pullman G Bangkok and 29 August-1 September 2016 at Banyan Tree.

The Meetings were held to discuss the preparation and improvement of capacity to develop Cross-Boarder ATFM Operation in the form of Distributed Multi-Nodal CDM/ATFM Network which was on operational trial in June 2015. This was the continuous development from CDM/ATFM collaboration amongst AEROTHAI, the Civil Aviation Authority Singapore (CAAS), Hong Kong Civil Aviation Department, China, Vietnam, Australia, Malaysia and Indonesia.

Further to the previous meetings, the Meeting reviewed the ATFM operations in support of Singapore's National Day Parade 2016 (NDP16) on both the Country that issued the CTOT and the Countries that received it. They agreed on the Common Operating Procedure (COD) and set the time for future test of CTOT process. AEROTHAI plans to issue CTOT for the Children's day activities in January 2017. The review and post-operations analysis shows significant efficiency and impact participating flights especially reduction of airborne delays.

#### **5. 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, 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 organizations. The purpose of the Meeting is to discuss the interoperability of the National Aviation Agencies to consider the integrated Aviation Work Plans, through opened-discussions in order to establish and to strengthen a strategic partnership, as well as to develop Strategic and Operational Standing Agenda. The objective of this Meeting 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, to support the growth of the aviation industry in the region. Moreover, the consultation to prepare for the Universal Security Audit Program - Continuous Monitoring Approach (USAP-CMA) of ICAO was also discussed in this Meeting.

## **6. The Workshop on the Safety of Flight Operations Services “SMART Sky by US”**

AEROTHAI hosted a workshop on the Safety of Flight Operations under the heading "SMART Sky by US". The Meeting was attended by the participants from various airlines in Thailand, together with AEROTHAI participants for the purpose of consultation with those of airlines on the issue of safety in flight operations. "SMART Sky by US" also offered participants unrivaled floors of disseminated experiences in Flight Operations as well as acting as a helpful mean of achieving coordination from our stakeholders. The Meeting will be held quarterly aiming to statistically track issues, including statistical number of difficulties and incidents resulted by Pilot Deviation and to report performance and progress on various issues from the previous meetings.

## **7. Airspace Users – ANSP Meeting**

AEROTHAI holds Airspace Users – ANSP Meeting twice every year during March and September to communicate corporately to Thai commercial airspace users of the current services, future plans and progress of projects which are implemented to provide better air traffic services. In addition, it was a channel for reviewing the customer satisfaction survey result and for airspace users and air traffic controllers to develop relationship 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 Understanding**

### **8.1 Signing Ceremony of Memorandum of Agreement (MOA) between the Royal Thai Air Force and AEROTHAI 2016**

The objective of signing this MOA is to establish a working guideline between the two organizations, in terms of Flight Operations, Technologies, and Joint Activities towards the Human Resource Development, including Integrated Collaboration. It is of the utmost importance that the Aviation Industry strives for, or to maintain, the highest level of safety - both in the areas of the defensive sovereignty, and also in compliance with international standards towards the Development of the Commercial/Civil Aviation System. This MOA between The Royal Thai Air Force and AEROTHAI has been revised every year and will be signed once a year to comply with the current environment of the working operations.



Air Chief Marshal Treetod Sonjance, Commander-in-Chief of the Royal Thai Air Force and Mrs. Sarinee Angsusingha, President of AEROTHAI signed MOA on 14 September 2016 at the Royal Thai Air Force Headquarters.

## **8.2. Signing Ceremony of the Letter of Agreement (LOA) in the field of Aeronautical Meteorology between Thai Meteorological Department (TMD) and AEROTHAI**

The broad objectives of this LOA are to foster the joint pursuit between Thai Meteorological Department (TMD) and AEROTHAI within the framework of Aeronautical Meteorology Operations, in order to promote a closer working environment and also to address Aeronautical Meteorology and its relevant issues of common concerns according to standards and recommended practices established by the International Civil Aviation Organization (ICAO).





Mr. Wanchai Sakudomchai, Director-General of Thai Meteorological Department (TMD) and Mrs. Sarinee Angsusingha, President of AEROTHAI signed LOA on cooperation in the field of Aeronautical Meteorology. The Signing Ceremony took place at Thai Meteorological Department on 22 September 2016.

### Company Operating Performance

#### Procurement of Installation a Transmission Station at Udon Thani Air Traffic Control Centre and Installation Backup Transmission Stations at Phuket and Chaing Mai Air Traffic Control Centres

As currently the number of flights has increased continuously so there is an increasing number of using frequency to support those flights, the development of radio stations is needed as they are the main voice communication equipment for air traffic service to support the Air-Ground communications between pilot and ATC. These radio stations need to be developed to reduce the problem of frequency interference that can occur and also Single Point of Failure from equipment that could disrupt the air traffic control services. This development complies with the standards of ICAO so that flight operation can be speedy and safe. At present, the main receiver, transmitter, and radio backup are installed and used in the same place for both Phuket and Chaing Mai. Therefore, to prevent the failure of the radio communication system from the factor of Single Point of Failure for example Electrical System and Network, the Company has to improve the efficiency of radio communication system by installing a transmission station at Udon Thani and two backup transmission stations at Phuket and Chaing Mai.

**Commissioning of New Secondary Surveillance Radar Systems at 6 Stations**

The Company has implemented the Procurement and Installation of Secondary Surveillance Radar Systems to improve the capability of radar system at Don Mueang International Airport. This will also be addition to the Infrastructure Development Project relating the Surveillance Systems at Phitsanulok, Chiang Rai, Udon Thani, Roi Et and Chumphon Airports to prepare for the provision of air traffic control service via radar systems where the Civil Aviation Authority of Thailand have granted permission for the Company to operate the new Secondary Surveillance Radar Systems at the 6 sites.

The Air Traffic Surveillance Systems Engineering Department is assigned to be responsible for the “Commissioning of New Secondary Surveillance Radar Systems at 6 Stations”. This will be used for the operations of the Bangkok Area Control Centre and Bangkok Approach Control Unit. On 9 July 2019, the Systems were connected to increase the surveillance capacity to cover the airspace that radar coverage does not cover. It will improve the efficiency of the provision of air traffic control for approach control and maximize the use of radar signals to be worthwhile.

The commissioning of these Systems concern many units which have been collaborating. The Aircraft Operation Department has carried out the radar flight check according to schedule. The Operation Bureaus and Provincial Air Traffic Control Centres tested the location of aircraft from the new Secondary Surveillance Radar at the 6 stations and the Radar Processing System to monitor the aircraft so that the Systems can be operated according to standards.



## Air Navigation Services

### En Route Air Traffic Control Service (Area Control Service)

In the fiscal year 2016, a total of 810,416 flights were serviced by Bangkok Area Control Centre (BACC) which was 79,857 flights increase from the previous year or 10.93%.

#### Traffic Volume Serviced by Bangkok Area Control Centre

Type of Operations	Fiscal Year Traffic Volume		Traffic Volume Change	
	2015	2016	Increase (+) Decrease (-)	Increase (+)% Decrease (-)%
Civil : International Flight				
– Scheduled	344,945	391,412	46,467	13.47%
– Non-Scheduled	35,934	32,087	-3,847	-10.71%
– Overfly	79,676	90,353	10,677	13.40%
Civi : Domestic Flight	256,824	283,165	26,341	10.26%
Total Civil Ft.	717,379	797,017	79,638	11.10%
Military	13,180	13,399	219	1.66%
Grand Total Ft.	730,559	810,416	79,857	10.93%

### 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 fiscal year 2016

Fiscal Year 2016			
Air Traffic Volume	Airport		Total
	Suvarnabhumi (VTBS)	Don Mueang (VTBD)	
Flight Type			
International	257,536	39,272	296,808
Domestic	75,694	205,498	281,192
Flight Rule			
VFR	-	13,359	13,359
Overfly VFR	16,741	1,646	18,387
Total	349,971	259,775	609,746

2. Comparison of air traffic volume at Suvarnabhumi Airport and Don Mueang Airport between fiscal year 2015 and 2016

Air Traffic Volume	Airport		Total
	Suvarnabhumi (VTBS)	Don Mueang (VTBD)	
Total Flight In fiscal year 2015	324,981	236,582	561,563
Total Flight In fiscal year 2016	303,762	177,695	481,457

Volume flights fiscal year 2016 increased from fiscal year 2015 was 4.11%

## Air Traffic Volume at Airports

Flight Movement/Airports	SUARNABHUMI	DON MUEANG	PHUKET	CHIANG MAI
<b>Flight Type</b>				
International	256,408	77,590	47,474	16,289
Domestic	77,155	181,825	48,790	54,759
<b>Type of Operation</b>				
S : Schedule	326,104	229,355	90,168	66,076
N : Non-Schedule	5,181	3,829	3,955	756
G : General	2,207	7,754	3,955	364
M : Military	11	18,050	1,056	2,460
X : Others	60	427	55	1,392
<b>Flight Rule</b>				
IFR	333,554	245,533	95,541	66,271
VFR (included Y,Z)	9	13,882	723	4,777
<b>Total 2016</b>	<b>333,563</b>	<b>259,415</b>	<b>96,264</b>	<b>71,048</b>
<b>Average per Day</b>	<b>911</b>	<b>709</b>	<b>263</b>	<b>194</b>
<b>Percentage of Changes 2016/2015 (average per day)</b>	<b>7%</b>	<b>9%</b>	<b>13%</b>	<b>4%</b>

Major Points

- Average number of flights depart/land per day at airport (4 top airports with the highest number of flight). The number of flights at most airports increased when compared with the previous year. The increase of flights at Phuket Airport was the highest at 13%
- During the peak hour, Don Mueang Airport had to handle 55 flights per hour which was almost the same number of Suvarnabhumi Airport because the increase of number of operations by low-cost airlines.

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

Bangkok Air Traffic Flow Management Unit (Bangkok ATFMU) provides Air Traffic Flow Management (ATFM) service by using the Bay of Bengal Cooperative ATFM System (BOBCAT), which was developed internally by AEROTHAI under auspices of ICAO ATFM Steering Group, for all flights planning to enter the Afghanistan airspace westbound during the busy night time period from South/Southeast Asia to Europe or from South Asia to North America.

### **Distributed Multi-Nodal ATFM Network Project**

Apart from provision of ATFM service using the BOBCAT system, AEROTHAI has been playing a joint leadership role in Distributed Multi-Nodal ATFM Network project with China, Hong Kong China, Singapore, Thailand, Australia and supported by other 7 ASEAN Member States in developing ATFM service addressing international air traffic volume, also known as Cross-Border ATFM service. AEROTHAI joint leadership in the project is consistent with air traffic movement in Thailand, which consists of high proportion of international traffic, while some international airports such as Suvarnabhumi Airport services majority international traffic volume of approximately 80%.

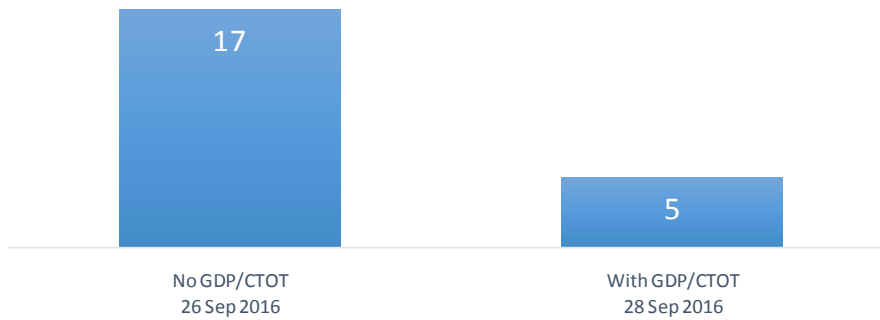
The Distributed Multi-Nodal ATFM Network project evolved into Operational Trial in 2015–2016, with Phase I concentrating on addressing demand–capacity balance at an arrival airport due to a situation where adverse circumstance such as weather phenomena, planned military activities or runway maintenance reduces capacity below planned air traffic.

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

During the Phase I Operational Trial, AEROTHAI applied Cross-Border ATFM process to support military air display affecting Don Mueang Airport. Cross-Border ATFM service in the form of Ground Delay Program (GDP) by adjusting take-off time from departure airport (Calculated Take-Off Time: CTOT) was deployed.

Deployment of Cross-Border ATFM using GDP/CTOT contributed in reduction of airborne delay from an average of 17 minutes/flight to 5 minutes/flight, the number aircraft substantially affected by airborne delay of over 15 minutes reduced from 33 aircraft to 2 aircraft, as summarized by figures below.

### Average Airborne Holding (minutes)

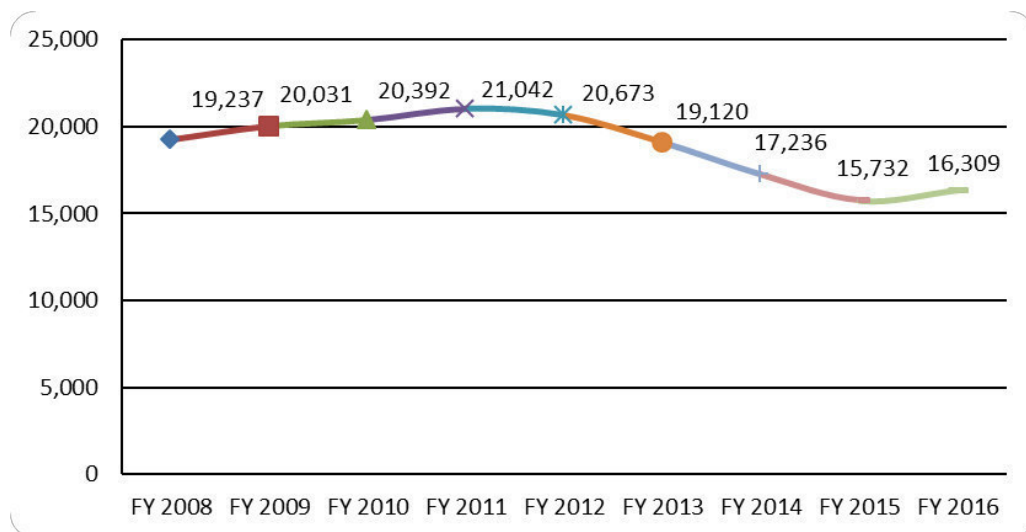


### Number of Flights were affected from Airborne Holding



### Flights Using BOBCAT ATFM Service

(Number of Slot Requests)



### Flight Volume Utilizing BOBCAT (at night)

Average Nightly Movement	53	55	56	58	56	52	47	43	45
Peak Nightly Movement	66	73	70	72	72	66	60	55	59

### Bay of Bengal Cooperative Air Traffic Flow Management System (BOBCAT)

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 120 million kilograms of aviation fuel, which would translate into reduction of greenhouse gases in contribution to the global environment of about 490 million kilograms. This, in turns, assisted in cumulative airline cost savings of approximately 120 million US Dollar.

In addition, it is estimated that during fiscal year 2015, 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 fiscal year 2016, uncertainty of Air Navigation Services provision for Afghanistan airspace continued to depress traffic growth through Afghanistan airspace. In addition, traffic growth between Europe and Thailand has been relatively slow (less than 1 percent growth per annum).

## Flight Procedure Design and Airspace Development

### The Implementation of Performance-Based Navigation (PBN) in Thailand to reduce effects on the environment from aviation activities.

Aviation is a small but important contributor to climate change. Global climate change is caused by the accumulation of greenhouse gases (GHG) in the lower atmosphere. Aircraft engines produce CO<sub>2</sub> emission and other greenhouse gases (GHG) to the atmosphere. GHGs trap heat in the Earth atmosphere causing the global warming phenomena. To address the issue, the International Civil Aviation Organization (ICAO) has developed standards, policies and guidance in order to reduce effects on the environment from aviation activities. ICAO encourages States to adopt and implement performance-based navigation (PBN) technologies in their airspaces, which allow the creation of shorter and more efficient routes between city pairs. Also ICAO encourages States to consider air traffic management coordination among the civilian and the military in order to utilize their limited airspaces to the maximum potential. Moreover, the implementation of Continuous Descent Operations (CDO) and Continuous Climb Operations (CCO) at airports, will potentially reduce the overall aircraft fuel burn and GHG emissions while retaining the capacity to manage the rapid increase in air traffic demand at the highest level of safety.

#### PBN Implementation in Airways

Currently, Thailand has 17 PBN airways:

- |          |         |         |         |         |          |
|----------|---------|---------|---------|---------|----------|
| 1) M904  | 2) Y3   | 3) Y4   | 4) Y5   | 5) Y6   | 6) Y7    |
| 7) Y8    | 8) Y9   | 9) Y10  | 10) Y11 | 11) Y12 | 12) M757 |
| 13) M769 | 14) Y13 | 15) Y14 | 16) Y15 | 17) Y16 |          |

### **PBN Implementation at Airports**

Thailand has implemented and published PBN procedures in AIP–Thailand, at 25 airports:

- |                         |                   |                      |
|-------------------------|-------------------|----------------------|
| 1) Phuket               | 2) Samui          | 3) Hat Yai           |
| 4) Chiang Mai           | 5) Lampang        | 6) Chiang Rai        |
| 7) Udon Thani           | 8) Surat Thani    | 9) Narathiwat        |
| 10) Nakhon Si Thammarat | 11) Phrae         | 12) Ubon Ratchathani |
| 13) Khon Kaen           | 14) Nakhon Phanom | 15) Sakon Nakhon     |
| 16) Krabi               | 17) Don Mueang    | 18) Suvarnabhumi     |
| 19) Trang               | 20) Hua Hin       | 21) Ranong           |
| 22) Nakhon Ratchasima   | 23) Mae Sot       | 24) Phitsanulok      |
| 25) U–Tapao             |                   |                      |

### **Benefits from PBN implementation**

From the above PBN implementation in Thailand’s airspace, the reduction in CO<sub>2</sub> emission from the aircraft to the atmosphere is estimated to be 1 to 2 percent which helps with the global warming problem.

### **Aeronautical Communication Services**

1. AEROTHAI provides aeronautical fixed service 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 in receiving, transmitting, and distributing aeronautical messages to all parties involved in Aeronautical Fixed Telecommunication Network (AFTN) and 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:



Item	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	64 Kbps
7.	Bangkok/Phnom Penh	Satellite	64 Kbps
8.	Bangkok/Yangon	Satellite	64 Kbps
9.	Bangkok/Ho Chi Minh	Satellite	32 Kbps
10.	Bangkok/Dhaka	Satellite	32 Kbps
11.	Bangkok/Vientiane	Satellite	32 Kbps
12.	Bangkok/Bhutan	Internet VPN	

In the fiscal year 2016, 215,229,691 AFTN/ATN messages were handled by Bangkok Aeronautical Communication Centre. A total increase of 27,849,405 messages or 12.94% in comparison with the last fiscal year.

### **Aeronautical Information Services (AIS)**

AEROTHAI is responsible for the flow of information necessary for safety, regularity and 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), Notices to Airmen (NOTAM), En-route Chart, and Aeronautical Information Regulation and Control (AIRAC) as well as other related aeronautical information to aircraft flying on domestic and international routes.

#### Notice to Airmen (NOTAM)

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

2. During fiscal year 2016, AEROTHAI processed a total of 21,240 NOTAMs which equals to an increase of 4,723 NOTAMs or 22.24% in comparison with the last fiscal year.

### Flight Plan and Air Traffic Service Messages

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

2. During fiscal year 2016, AEROTHAI processed a total of 5,417,569 flight plan messages which equals to an increase of 838,876 messages or 15.48% in comparison with the last fiscal year.

### Operational Meteorological (OPMET) Data Services

AEROTHAI is a designated Operational Meteorological Bulletin Exchange (ROBEX) Center as well as Regional OPMETs Data Bank (RODB) under ICAO standard, Annex 3 and ROBEX Handbook.

### Business Related Service

#### **Business Related Service Performance in the Fiscal Year 2016**

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

In fiscal year 2016, AEROTHAI provided services in many projects in fields of production, provision, installation, maintenance, survey, inspection, calibration, training for domestic and oversea organizations as follows:

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

Ten significant projects performed by AEROTHAI, were as follows:

- Improving of three dimension Air Traffic Control Radar Simulator for the Civil Aviation Training Centre
- Improving of Air Traffic Control Radar Simulator Recondition for the Civil Aviation Training Centre
- Maintenance of Radar Simulator for the Royal Thai Navy
- Maintenance of AMSS for the Royal Thai Air Force

- Provision of the Receiver Autonomous Integrity Monitoring (RAIM) Prediction Service for Vietnam Air Traffic Management, Vietnam

## **2. Flight Inspection Service**

AEROTHAI provided flight inspection service for various Navigation Aids: Different Navigation Aids, Doppler Very High Frequency Omni Directional Range/Distance Measuring Equipment (DVOR/ DME), Non Directional Beacon (NDB), Performance Base Navigation (PBN) and Radio Navigation at 9 airports: 6 airports in the Country and 3 airports are overseas.

## **3. Readiness Assessment for Implementation of Reduce Vertical Separation Minimum (RVSM) of ATC for Operation Service**

AEROTHAI provided the service to 88 aircraft of 64 airlines and freight forwarders, e.g. Ariana Afghan Airlines, AEV Aviation Inc., Airmid Aviation Ltd., AR Airways PVT. Ltd., Citilink Indonesia, Travira Air, etc. The service was provided in the Country and other 9 countries, which are Cambodia, Taiwan, Myanmar, the Philippines, Singapore, Afghanistan, Indonesia and India.

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

AEROTHAI provided the service to 1,084 equipment for in-house use and 141 equipment for other 18 organizations 7 of which are new customers and parts of a test equipment calibration service agreement; namely, Sky Network 2009 Co. Ltd., NCC Management and Development Co. Ltd., SC Group of Companies, Centre of Industrial Instrument Calibration, King Mongkut's Institute of Technology Thon Buri, RF Application Co. Ltd., TOT PLC., CJ Media Group which is a part of Test Equipment Calibration Memorandum of Understanding between Office of the National Broadcasting and Telecommunications Commissions and AEROTHAI. Moreover, AEROTHAI also provided the service to Cambodia Air Traffic Service Co. Ltd.

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

AEROTHAI provided communication equipment for own use and rental services to airlines, aviation related business operators, PTT Public Company Limited and subsidiaries. In fiscal year 2016 the Company had 1,506 sets of equipment for own use and 11,804 sets for rental purpose. This was an increase of 2,152 sets or 22.30% compared with those of the previous fiscal year.

## **6. Satellite Communication Services**

AEROTHAI has developed not only satellite communication circuit from TES system to IP Broadband, which is VIASAT Linkway S2 but also the communication networking system from Frame Relay to DDN via IP Cloud. This improvement leads to increase efficiency and flexibility to use any network topology: Full-Mesh, Star and hybrid. The IP VPN is capable of being redundancy for Air Traffic Control System 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, Lao PDR, Cambodia, Vietnam, Malaysia, Myanmar and Bangladesh.

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

AEROTHAI installed additional 12 remote ground stations (RGS) in 5 countries:

- 5 RGSs in Australia (4 ACARS and 1 VDLM2)
- 3 RGSs in Indonesia (Eastern Coast) (ACARS)
- 1 RGS in South Korea (ACARS)
- 1 RGS in Myanmar (ACARS)
- 2 RGSs in Thailand (VDLM2)

The total number is 141 stations which can be categorized into 120 ACARS stations in 15 countries and 21 VDLM2 stations in 6 countries, to service airlines with a coverage of 15 countries which are Thailand, Cambodia, South Korea, Taiwan, New Zealand, Brunei, Myanmar, the Philippines, Mongolia, Malaysia, Vietnam, Singapore, Australia, Indonesia and India. AEROTHAI provided AOC service to 164 airlines. Number of aircraft amounted to 7,200 aircraft. Total number of aviation data was 126.31 million Kb., which was an increase of 22.62 million Kb., or 21.81% from those of the previous fiscal year.

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

AEROTHAI provided 6 training courses to civil aviation authority and others as seen below:

- The Civil Aviation Authority of Mongolia (CAAM) 5 courses:

1. Standardized Training Packages (STPs) 052, 055 plus 054 with psychological tests to select candidates to attend the courses which cover the Aerodrome Assistants and Radar Control (Approach and Area)
2. Provision of Consulting Services on MSSR and ADS-B
3. Psuedo Pilot
4. Refresher for Air Traffic Controller
5. Test Equipment Calibration Laboratory

- Office of National Broadcasting and Telecommunications Committees 1 course:

1. Air Traffic Service Primary Course

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

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

Moreover, AEROTHAI has conducted researches to develop new products, services, systems and technologies in order to support core business and exploit the business opportunity. In 2016 2 products have been developed as follows:

1. Signal Light Gun is a communication equipment between pilot and air traffic controller used in case of disruption of radio communications. This light gun has been developed so that its design is more compact, light weight and higher light intensity and the illumination test has been approved by the Electrical and Electronics Institute.

2. Near Field Antenna Monitor Bird Protection is a prototype which its material has been improved to be durable and suitable for weather. Its bearing is rustproof and increased the number of windsock. This prototype has been tested and planned to be installed at Hua Hin Airport.

## **Human Resource Management**

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

AEROTHAI needs a systematic manpower planning (short-term, medium-term and long-term) to address constant changes in the environment and aviation industry. In 2016, the Company revised its 10-year Manpower Plan, which is an important guideline for both the numbers of staff and competency developments needed to efficiently operate with new aviation technologies for the next 10-year period (2016-2025). AEROTHAI made an improvement in our recruitment process to aggressively attract new personnel with the right skill sets in order to better serve AEROTHAI's future technology advancement and air traffic growth. Additionally, the Company made changes to AEROTHAI HR MODEL to ensure that it is still viable in promoting highly engaged and professional staff.

Major HR projects that had been carried out in 2016 and created significant impacts included Competency Management, Compensation Management and Human Resource Information System (HRIS). For Competency Management Project, AEROTHAI saw the need to revise company-wide Core Competencies, Functional Competencies and Leadership Competencies as well as to establish a Competency Assessment System for all position levels. For Compensation Management Project, the Company increased the rates of air traffic control licenses in order to better match with higher responsibility and complexity our air traffic controllers had to handle. Positions that needed technical skills or special areas of expertise were also identified and provided with appropriate compensation schemes in order to attract personnel with the right qualifications for expert roles in the future. Last but not least, Human Resource Information System (HRIS) is being implemented to expedite our work process as well as improve our planning and decision making.

For staff's quality of life, AEROTHAI consistently organizes many activities that aim to help staff achieve 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. Every year, the Company collects statistics of common sicknesses most staff have problems with, based on medical bills they frequently submit for reimbursement. AEROTHAI analyzes the company-wide health statistics along with staff's annual health examination results, in order to design appropriate health-promoting activities and use as inputs in redesigning our welfare system.

A revision in reimbursement procedures is being made, aiming to reduce reimbursement duration for staff. 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 demanding work environment. This year popular health-promoting activities include zumba, yoga and body balance.

To promote morality and well-being of society and environment, AEROTHAI continues to run "The AEROTHAI Mini Volleyball" that supports talented youth around the country to play volleyball. The program is proven a great success: many participants have grown to become national volleyball players, generating fame and positive reputation for AEROTHAI and Thailand. Additionally, every year AEROTHAI collects necessary items and raises money for underprivileged kids.

AEROTHAI highly emphasizes the importance of our staff because the Company recognizes that the overall performance is mainly driven by staff's dedication and willingness to work hard. The Company continues to carry out Employee Engagement survey annually and strives to strengthen our employee engagement, which will, in turn, lead to AEROTHAI's

sustainable growth in the future. According to the Employee Engagement Survey result in 2016, AEROTHAI staff's engagement level increased compared to the results from past years.

## **HUMAN RESOURCE DEVELOPMENT AND LEARNING MANAGEMENT**

AEROTHAI is responsible for enhancing and developing staff's competency according to their both core and functional competency, knowledge management planning, learning organization environment founding, innovation promotion and scholarships. The operations under Corporate Plan (2016-2020) and AEROTHAI HR Model consist of:

1. Training and Human Resource Development
2. Knowledge Management (KM)
3. Innovation Promotion.

### **Training and Human Resource Development**

AEROTHAI realizes the importance of human resource development and providing the training and development programs for the management and staff as follows:

1. Training and Development for Management: To develop management at all levels to have the managerial competency suitable for their positions by emphasizing both theoretical aspect (Hard side) and knowledge sharing through experience aspect (Soft side) including management development by seminars at other organizations such as the Ministry of Transport, the Institute of Research and Development for Public Enterprises (IRDPE), etc.
2. Training and Development for Staff: Focus on potential development for both Core Competency and Functional Competency, Career Development Plan and develop employee capabilities for the replacement position or successor in higher levels

In 2016, there are 4 significant developments which are as follows:

1. Preparation operation and engineering staff for Thailand Modernization CNS/ATM System (TMCS)
2. The English Language Proficiency Program for Operational Level 4 – Higher and Below so that the air traffic controllers and aircraft operators can improve their English to meet ICAO standards and to prepare them for the tests with the institutes that have been licensed by the Government.
3. The development for engineer training courses. The Company sent its staff to attend ICAO TRAINAIR PLUS Training Developers Course in order to develop ICAO standard courses.
4. Core Competency development program.

Apart from its mission of training, the Company continues to make contribution by providing scholarships to students to study from Bachelor's degree up to the Doctoral level as well as AEROTHAI Training scholarships especially Safety, Standard, Strategic Planning,

Aviation Financial, Aviation Law and Training Instructor. The training will help the staff to work with the new System with safety and efficiency according to international standards. Additionally, the Company also permits a study leave for its employees to undertake self-funded further education so as to increase the Company's human resource quality to keep up with the future organization growth in this modern world.

### **Knowledge Management (KM)**

AEROTHAI has put forward knowledge management (KM) tools to its management in 2004 and now has been implemented under AEROTHAI KM Process. The KM Process aims to establish the participation of staff at all levels through the important processes including knowledge identification, knowledge creation and acquisition, knowledge sharing and transferring from generation to generation. Moreover, the process also focuses on the use of information technology to systematically collect knowledge as well as assessing the success of knowledge management continuously every year with the aim to seek for best practice that will lead to development and enhancement of strong knowledge base and value added to the organization.

In 2016, KM Focus Areas which identified by executive managers are including knowledge that supports the achievement of the Company's strategy, knowledge to use in works and knowledge that related to stakeholders. All departments have implemented their knowledge management process under these KM Focus Areas.

### **Innovation Promotion**

AEROTHAI has continued to put emphasis on internal innovation promotion. There is a responsible unit with systematic management. Engagement has been encouraged and executive management are members of the committee to set policy, targets and good corporate governance. Integration of innovation promotion and knowledge management was done to support the concept of learning organization and innovation organization. In addition, the Company organizes various activities such as meeting to exchange knowledge and idea amongst staff, annual innovation, process management innovation and ideas competition, etc.

AEROTHAI promotes "Process Management Innovation" policy within the organization by emphasizing staff to have knowledge and understanding of research, development and innovation to actually create the innovation. The 2016 Process Management Innovation competition was held to encourage management and staff to improve and to develop working process in their sector for more efficiency or quality in order to response to the customer expectation or to solve problems/reduce limitations or adjusting to the opportunities or trend of changes of the environment in the future.



In 2016, there were 13 innovations, 6 processes and 9 ideas that entered the competition for AEROTHAI INNOVATION AWARD 2016. Most of them have been invented and created for solving problems, amending and enhancing working procedures. The winners are:

**Innovation:**

**Technological Innovation Award Category:** Air Traffic Flow Management Support System for Adverse Condition

**Management Innovation Award Category:** Bangkok TMA Sequencing Tool (BTST)

**Invention Award Category:** The Spurious Frequency Monitoring Device for FM Broadcast

**Procedures Management Innovation**

**Core Business and Information Technology Audit Bureau and Engineering Service Bureau:** Audit Management System (IAMS) Process

In 2016, AEROTHAI's Innovations have entered the competition and attended the world class exhibition of 44<sup>th</sup> International Exhibition of Inventions of GENEVA 2016. The results are as follows:

Monitoring and Identification of Interference for Air Traffic Services:

1. Silver Medal in C class: Computer Sciences – Software – Electronics – Electricity - Methods of Communication
2. Excellent Award (Special Prize) from Korea University Invention Association

**Human Resource Development : Operations**

**Human Resource Development : Air Traffic Services**

In the area of Human Resource Development : Air Traffic Services, the Company strongly emphasized not only on developing adequate numbers of staff, but also on quality of ATC in accordance with International Civil Aviation Organization (ICAO) standards and recommended practices. The Company supported its staff to develop their own working potential and gain the competency for their readiness to the higher positions. To coping with Pre-Flight Management in FDMC System, the Company has provided domestic and international training courses as well as visiting other countries. Apart from meeting the ICAO standards and recommended practices, the Company adopted the Voice Communication System : VCCS (touch screen) which will be installed in every Air Traffic Control Centre in the near future. Moreover, the Company provided the 3 dimensions 180 degrees and 360 degrees simulators in aerodrome control training services in order to

reduce any technical limitations and enhance ATC learning capabilities using the advanced technology in the stimulated real working environment. This cutting edge technology contributed not only to an increase in the efficiency of the individual learning, but also to let its staff getting used to all the equipment beforehand.

In addition, the Company promoted the training of the staff who also work as interviewer/rater to work with institutes that provide English test which are licensed to organize English tests according to ICAO standard. This group of personnel are working as air traffic controllers so they can work as test administrators and raters.

### **Training and Consultation**

The Company has gained trust from the Department of Civil Aviation Mongolia, to providing several training courses such as Pseudo Pilot Training Course and Area Control Surveillance Training Refresher Course for the Department of Civil Aviation, Mongolia (MCAA).

### **Operating Performance**

In 2016, the Government has set a policy to set the target for investment expenditure of state enterprise to be more than 95% of the approved budget. The 2016 actual accumulated investment expenditure of AEROTHAI was Baht 1,780.73 million (data as of 30 September 2016) or 92.27% when compared with the approved budget of Baht 1,930.00 million which was Baht 149.27 million lower than the approved budget. If the Company adjusted the conditions according to the Ministry of Finance guidelines, AEROTHAI's investment expenditure would be 100.47% of the approved budget which was the first time in many years that AEROTHAI has disbursed more than 100%.

### **Performance Appraisal**

AEROTHAI performance appraisal was done through performance agreement of state enterprise's operation with the Ministry of Finance with State Enterprise Policy Office (SEPO) as regulating body. The Government recognizes the importance of developing and adding value to enterprises to be more efficient, which will lead to increase 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 overall performance appraisal of 4.1220 in the Fiscal Year 2015.

Operating Performance as per SEPA	Fiscal Year 2015	
	Process	Performance
Weight	50	50
Weighted Result	332.50/2.0667	2.0553
Total	4.1220	

### **Company Rating**

In the fiscal year 2016, the TRIS Rating Company Limited affirmed the company rating of Aeronautical Radio of Thailand Limited (AEROTHAI) at “AAA” and the “stable” outlook which is the highest level for the second consecutive year. The rating reflects the strategic importance of air navigation services to the country, as well as AEROTHAI’s good safety record, ample liquidity, and experienced management team. The Company’s credit profile is further enhanced by the support from the Government, ensuring AEROTHAI’s importance as the sole air navigation service provider of Thailand. However, these strengths are partially offset by sensitivity of air transportation to event risks. The “stable” outlook reflects AEROTHAI’s monopoly status and efficient operations. In addition, the Company is expected to sustain strong liquidity position. AEROTHAI’s rating downgrade may occur if its relationship with the Government is weakened from the current level which may dilute the support from the Government.

### **Awards Received during the Year**

Apart from provision of air traffic control services, the Company encouraged its staff to create innovation that will be useful for the Company’s core function and benefit the society. In 2016, AEROTHAI submitted the Monitoring and Identification of Interference for Traffic Services for the competition at the world class exhibition of 44th International Exhibition of Inventions of Geneva, Geneva, Switzerland. It received Silver Medal in C class (Computer Sciences – Software – Electronics – Electricity - Methods of Communication) and also Excellent Award (Special Prize) from Korea University Invention Association.

## Highlighted Activities

### Regional Cooperation

#### 1. Cross-border Air Traffic Flow Management (Cross-border ATFM)

- AEROTHAI has actively supported International Civil Aviation Organization (ICAO) at both global and regional levels. Particularly, AEROTHAI is a member of ICAO Air Traffic Management Operations Panel (ATMOPSP), working on drafting global ATFM standards and related guidance materials. Moreover, under the umbrella of ICAO Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG), AEROTHAI continuously contributes to ATFM Steering Group (ATFM SG), especially in developing and maintaining Asia/Pacific Framework for Collaborative ATFM with the aim to push forward ATFM implementation in the Asia/Pacific region.

- AEROTHAI plays the leading role in Distributed Multi-Nodal ATFM Operational Trial, involving Air Navigation Service Providers (ANSPs) of 10 countries (e.g. Singapore, China, Hong Kong China, Indonesia, Australia) in Asia/Pacific region as well as airlines and international organizations, to validate the cross-border ATFM concept. This project is one of the collaborative ATFM projects participated by the highest number of aviation stakeholders in the region. In 2016, AEROTHAI together with participating ANSPs made quite a number of achievements, including developing and validating Common Operating Procedure, training of stakeholders' operational personal, and testing of communication linkage, through a series of demonstration flights and limited-scope operational service conducted from March to June 2016 and from July to August 2016, respectively. Furthermore, with the need for a single-point of information access enabling by the effective information sharing platform among stakeholders, since the beginning of 2016 Technical Sub-Group of the project has been established and tasked to develop an Interface Control Document (ICD) that will define the ATFM system-to-system information linkage, while keeping in view the requirements from airspace users and future development toward System-Wide Information Management (SWIM) framework.

#### 2. System-Wide Information Management (SWIM)

- AEROTHAI participated in Mini Global II Demonstration (MG II) to exhibit the globally interoperable systems designed based on SWIM concept and the use of internationally standardized information exchange models. The project demonstrated how ANSPs and other aviation stakeholders are able to collaboratively make decisions by utilizing the information seamlessly shared within and across regions in order to improve ATM performance as envisaged in the ICAO Global ATM Operational Concept and Global Air Navigation Plan. With the remarkable accomplishment of Mini Global I Demonstration (MG I) which AEROTHAI also participated in 2014, the MG II, built on the lessons learnt from MG I,

was executed in April 2016 by FAA (Federal Aviation Administration), EUROCONTROL, AEROTHAI, other ANSPs around the world, airlines, and industry partners to showcase the extended global SWIM architecture and more complex use cases, compared to MG I.

- Furthermore, the demonstration of operational scenarios that were of particular interest to the participating MG II partners in the Asia/Pacific region, i.e. AEROTHAI, Japan Civil Aviation Bureau (JCAB), and Civil Aviation Authority of Singapore (CAAS), was performed during the ICAO SWIM workshop held at the ICAO Bangkok Regional Office in May 2016, to promote awareness among States in the Asia/Pacific and Middle East regions on the feasibility of early SWIM implementation and importantly to illustrate the possible operational benefits enabled by SWIM infrastructure.

- AEROTHAI is also the active member of Asia and Pacific Common Regional Virtual Private Network Task Force (CRV TF) where Thailand is the Pioneer State, participating in the selection process of Internet Protocol (IP) network provider for the Asia/Pacific region. This CRV will form the necessary IP infrastructure upon which a regional implementation of SWIM and other future communication services can be built.

### 3. Thailand Modernization CNS/ATM System (TMCS)

Thailand Modernization CNS/ATM System (TMCS) is the installation of new air traffic control system project to replace the existing system in order to increase capability to accommodate the number of flights that increases rapidly and to increase the efficiency and safety in air navigation services. This is in line with the changes of global aviation technology and drives Thailand to be the aviation hub in the region. The prominent point the TMCS Project is that the change of equipment, technology and work procedures in air traffic management by applying TOPSKY system to the operation. The TOPSKY consists of TOPSKY ATC, the operation system for area control (en route) and approach control and TOPSKY TOWER for aerodrome control. The 2 systems provide operational procedures for air traffic controllers by changing from semi-automated to fully automated operation with automatic warning system to increase flight safety.

In addition, improvement of support systems has been implemented for Voice Communication Control System (VCCS) and Voice Recording System (VRS). This will help the communications between air traffic controllers and pilot to be more stable. Part of the project is the improvement of uninterrupted power supply (UPS) to enhance confidence of continuous services provided with safety,

The main operation room of the TMCS Project located in the new Air Traffic Management Centre (ATMC) and Network Management Centre (NMC). It will be the Operation Centre to provide air traffic and airspace management for more flexibility. It is

also the Air Traffic Control Centre for collaboration with the military and the Centre for management of national air traffic control technology. The Centre will be equipped with new air traffic control equipment and technology with high capabilities and interconnect within 1 system nationwide. There are also Contingency and Training Systems (CON/TRA) to prepare for any emergency.

The Company has produced multimedia to give information about the Project so that the staff and general public will understand and realize the importance of the Project and the benefits of the change of technology.

## 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 2016, AEROTHAI has carried out risk management work according to its Risk Management and Internal Control Master Plan 2016 which was approved by the Risk Management Board on 21 December 2015. The risk assessment has been conducted starting from January 2016 with the following outcome::

Strategic Risk: Managed strategic risk in the areas of value creation to aviation industry and stakeholders, as well as successful implementation of ASBUs elements according to ASEAN plan. Results show that AEROTHAI's strategic risks are low and within acceptable level.

Operational Risk: Mainly focused on providing safe and efficient air navigation services, developing high quality personnel, and becoming highly productive organization. Overall evaluation shows that 3 out of 10 main areas need to be further managed (which are:

- 1) air traffic controller fatigue which was the result of imbalance between manpower and workload,
- 2) intrusion of unmanned rockets and sky lanterns into control areas, and
- 3) high traffic growth which was not well supported by current airspace configurations.

The risk management measures already prescribed for these areas need to be monitored, reviewed, as well as supplemented with additional measures in short, medium and long terms to continuously improve operations in the year 2017.

Financial Risk: AEROTHAI has always carefully monitored risks arising from external factors that could affect air traffic volume which translates to AEROTHAI's income. In the year 2016, air traffic volume increased, resulting in higher income, higher liquidity, and hence reduced financial risk.

Compliance Risk: AEROTHAI carried out operations in accordance with the good governance concept as well as related legislations/laws, notably in the following risk areas:

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

In the year 2016, AEROTHAI's compliance risks in all 3 areas are shown to be low, within an acceptable level

#### **Business Continuity Management (BCM)**

AEROTHAI has implemented the Business Continuity Management (BCM) by evaluating risks associated with events that could impact AEROTHAI's operations, and exercised according to the plan to prepare for the unexpected situations at all operation centres across the country.

#### **Internal Control**

AEROTHAI has in place the sufficient and appropriate internal control, and regularly reviewed operation to suit the changing environment. The review and evaluation process is in accordance with internal control standard by 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**

#### **Corporate Governance and Corporate Social Responsibility (CG & CSR) Revision of AEROTHAI'S Corporate Governance Policy**

In the fiscal year 2016, AEROTHAI has revised its Corporate Governance and Corporate Social Responsibility Policy and Corporate Governance and Corporate Social Responsibility Master Plan 2016-2020, and that version is current and up to date as follows:

#### **Corporate Governance and Corporate Social Responsibility Policy**

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

#### **Implementation of Corporate Governance and Corporate Social Responsibility Master Plan 2016-2020 in 2016.**

In the fiscal year 2016, AEROTHAI has implemented Corporate Governance and Corporate Social Responsibility Master Plan publish version 2016-2020. The said plan is comprised of 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 result of the Company's performance and to be beneficial to all parties. Particularly, in 2015, the Company were rated high score in Ethics and Transparency evaluation for Government Agencies and State Enterprises according to the Office of National Anti-Corruption Commission's standard. Apart from that, AEROTHAI has developed anti-corruption road map by AEROTHAI Way to support Thailand's National Anti-Corruption (Phase III) 2017-2021. AEROTHAI Way for anti-corruption plan is comprised of development and action plan for Codes of Conduct, action plan for Organic Law on Counter Corruption and Criminal Law, action plan for Ethics and Transparency operation in public sectors and action plan for anti-corruption for internal and external public sector networks. This will be used to draft the Corporate Governance and Corporate Social Responsibility Master Plan publish version 2017-2021.



### **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 2016, there were no requests made from any people or organization.

### **BOARD OF DIRECTORS**

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.

At the ordinary general meeting in every subsequent year, one third of the Directors must retire from office. A retiring Director is eligible for re-election. A Director can be appointed only by a general meeting. If a vacancy occurs in the Board of Directors otherwise than by rotation it may be filled by the remaining Directors, but any person so appointed shall retain his office during such time only as the vacating Director was entitled to retain the same.

### **THE BOARD OF DIRECTORS IN THE FISCAL YEAR 2016**

In the fiscal year 2016, the Board of Directors consisted of the following 8 Directors:

- |  |   |
|--|---|
| <p><b>1. Air Chief Marshal (Retd) Itthaporn Subhawong</b></p> <p><b>Age:</b> 64</p> <p><b>Position:</b> Retired Officer, Ministry of Defence</p> <p><b>Education:</b></p> <ul style="list-style-type: none"> <li>- Bachelor of Aeronautical Engineering, Royal Thai Air Force Academy</li> <li>- National Defence College (Class of 47)</li> </ul> | <p><b>Chairman</b></p> <p>(Appointed as the Chairman on 15 August 2014)</p> |
|--|---|

**Work Experiences:**

- Years 2014 Chairman of the Recruitment Panel of the National Reform Council, Public Health and Environment
- Years 2009 – 2012 Advisor to the Chairman of the Board of Directors, TMB Bank Public Company Limited
- Years 2008 – 2012 Commander in Chief of the Air Force (21<sup>ST</sup>)  
Chairman of the Board of Directors, Thai Aviation Industries Co. Ltd.
- Year 2007 Member of the Board of Directors, Airport of Thailand PLC.

**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

**Other Positions:**

- 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. General Kanit Sapitaks****Vice Chairman**

(Appointed as the Director and Vice Chairman on 15 August 2014 and 18 August 2014 and resigned on 27 January 2016 and reappointed on that day)

**Age:** 64

**Position:** Retired Officer

**Education:**

- Bachelor of Science, Chulachomklao Royal Military Academy

- Command and General Staff College (Class of 63)
- National Defence College (Class of 49)

**Work Experiences:**

- 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 Defence
- 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

**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

**3. Mr. Prasit Suebchana**

**Director**

(Appointed as the Director on 25 January 2016)

**Age:** 60

**Position:** Inspector General, Ministry of Finance

**Education:**

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

**Work Experiences:**

- 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 Defence 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 on Anti-Corruption Strategic Management for Senior Executives (Class of 6), Office of the National Anti-Corruption Commission

**Fields of Competence:**

- Finance and Banking
- Finance government budget
- Risk Management
- 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 B.E. 2469
- Board of Compare the Act Commission and Promote Insurance Business

**4. Mr. Puttipong Prasarttong-Osoth**

**Director**

(Appointed on 18 April 2012 and resigned on 28 January 2015 and reappointed on 17 March 2015)

**Age:** 51

**Position:** President, Bangkok Airways Public Company Limited

**Education:**

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

**Work Experiences:**

- Years 2008-present                      President, Bangkok Airways Public Company Limited
- Years 2007-2008                      Senior Vice President Operations, Bangkok Airways Company Limited
- Years 1997-2006                      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:**

- Economics, Finance and Accounting
- Management and Business Administration, Strategy and Development Planning-
- Aviation, Aviation Management and Air Traffic Control

**Other Positions:**

- 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

**5. Mr. Chaicharearn Atibaedya****Director**

(Appointed as the Director on 15 August 2014)

**Age:** 63**Position:** Academician**Education:**

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

**Work Experiences:**

- Executive Vice President, PTT Research & Technology Institute
- Executive Vice President, PTT, Chairman of the Executive Committee for 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) : GAS 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

**6. Colonel Peerawat Promkladpanao      Director**

(Appointed as the Director on 15 August 2014)

**Age:** 45

**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 Experiences:**

- 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, 2nd Cavalry Regiment Royal Guard
- Operation and Intelligence Division Officer, 12th Signal Battalion Royal Guard, 2nd Cavalry Regiment Royal Guard
- Service Company Executive Officer, 12th Signal Battalion Royal Guard, 2nd Cavalry Regiment Royal Guard
- Service Company Commander, 12th Signal Battalion Royal Guard, 2nd Cavalry Regiment Royal Guard
- Artificer Staff Officer, 12<sup>th</sup> Signal Battalion Royal Guard, 2<sup>nd</sup> Cavalry Regiment Royal Guard
- Radio Relay Officer Wire and Radio Relay Company, 2<sup>nd</sup> Signal Battalion Royal Guard, 2<sup>nd</sup> Cavalry Regiment Royal Guard
- Prachin Buri railway station 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

**Fields of Competence:**

- Management and Business Administration
- Engineering
- Telecommunication and communication
- Security

**Other Positions:**

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

**7. Mr. Pongsak Somchai**

**Director**

(Appointed on 26 January 2015 and resigned on 27 January 2016 and reappointed on that day and retired on 1 October 2016)

**Age:** 60

**Position:** Deputy Permanent Secretary, Ministry of Transport

**Education:**

- Bachelor of Law, Ramkhamhaeng University
- Master of Public Administration, Thammasat University

**Work Experiences:**

- Year 2013 Inspector – General, Ministry of Transport
- Years 2009 Director The Legal Affairs Bureau, Office of the Permanent Secretary

**Training:**

- Senior Executive Development Program, the Office of the Civil Service Commission (OCSC)
- Public Administration and Law for Executive Certification Program, King Prajadhipok's Institute
- Training Course Inspector General of Ministry, Office of the Permanent Secretary, Prime Minister Office



**Fields of Competence:**

- Law
- Transportation and Communication

**Other Positions:**

- Member of the Board of Directors, Airport Rail Link
- Member of the Board of Directors, the Transport Company Limited

**8. Mrs. Sarinee Angsusingha****President/Director**

(Appointed on 15 August 2014 and  
resigned on 27 January 2016 and  
reappointed on that day)

**Age:** 57

**Position:** President, Aeronautical Radio of Thailand Limited

**Education:**

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

**Work Experiences:**

- 5 June 2014 – present      President, Aeronautical Radio of Thailand Ltd.
- Year 2010 - 5 June 2014      Executive Vice President, Aeronautical Radio of Thailand Limited
- Years 2009 – 2010      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 on 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
- Human Resource Management
- Aviation, Aviation Management and Air Traffic Control

**Other Positions:**

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

**DIRECTOR RESIGNING DURING THE FISCAL YEAR 2016****1. Mr. Krisada Chinavicharana****Director**

(Appointed as the Director on 15 August 2014  
and retired on 24 December 2015)

**Age:** 53

**Position:** Director General, Fiscal Policy office, Ministry of Finance

**Education:**

- Bachelor of Law, Chulalongkorn University
- Master of Business Administration (M.B.A), USA.
- National Defence College (Class of 54)

**Work Experiences:**

- Member of Board of Directors, Krung Thai Bank Public Company Limited
- Member of Board of Directors, Bangkok Commercial Asset Management Company Limited
- Member of Board of Directors, Phayathai Asset Management Company Limited
- Member of Board of Directors, Islamic Bank of Thailand

**Training:**

- Director Certification Program (DCP Class of 186), Thai Institute of Directors
- Senior Executive Development Program (2010), the Office of the Civil Service Commission (OCSC)
- Civil Service Executive Program (Class of 56), the Office of the Civil Service Commission (OCSC)
- Integrated Proactive Criminal Justice Administration Course, (Batch 4/2006), Office of Justice Affair
- Financial Instrument and Market 2004, Harvard Business School

**Fields of Competence:**

- Economics, Finance and Accounting
- Management and Business Administration, Strategy and Development Planning
- Law

**Other Positions:**

- Member of Board of Directors, Bank of Thailand
- Member of Board of Directors, Electricity Generating Authority of Thailand.

- Name listed in the Directors' Pool of State Owned Enterprise in Economics, Finance (Finance and Banking), Management and Business Administration (Organization Management), and Law (Financial, Saving and Budget)

## 2. Mr. Wanchart Santikunchorn

### Director

(Appointed as the Director on 15 August 2014 and resigned on 27 January 2016 and reappointed on that day and retired on 26 May 2016)

**Age:** 63

**Position:** Director General

Department of Intellectual Property and International Trade Litigation,  
Office of The Attorney General

### Education:

- Bachelor of Law, Thammasat University
- Thai Barrister, Institute of Legal Education Thai Bar Association
- Master of Science (Knowledge Management), Chiang Mai University

### Work Experiences:

- Years 2011 – 2015 Deputy Director-General  
Department of Legal Counsel, Office of The Attorney General
- Years 2007 – 2011 Deputy Director-General  
Department of Public Prosecutor Commission
- Years 2006 – 2007 Executive Director Office of Contract and Legal Advice  
Department of Legal Counsel
- Years 2004 – 2006 Secretary to the Deputy Attorney General
- Years 2002 – 2004 Expert Public Prosecutor  
Department of Legal Counsel

### Training:

- Director Certification Program (DCP Class of 138), Thai Institute of Directors
- Audit Committee Program (ACP Class of 38), Thai Institute of Directors
- Role of the Chairman Program (RCP Class of 32), Thai Institute of Directors
- Public Director Certification Program (PDI Class of 9), King Prajadhipok's Institute
- Certificate Course in Public Administration and Law for Executives (Class of 9)

### Fields of Competence:

- Management and Business Administration

- Law

**Other Positions:**

- Member of the Board of Directors, Bangkok Mass Transit Authority
- E-Auction Committee, Bangkok Metropolitan Administration
- Procurement Committee, Bangkok Metropolitan Administration
- E-Procurement Committee, Comptroller General's Department
- 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)

**ROLES AND RESPONSIBILITY OF BOARD OF DIRECTORS**

The Board of Directors establish the policies and oversee the Company's operation. They also play an important part to set up the strategic plan for organization development in accordance with State Enterprise's practices and the Company's vision stated that "Move up quality to become one of the leading and most sustainable ANSPs in ASEAN". 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 Five Independent Directors were also announced.

The Company schedules the Board of Directors' meetings in advance throughout the year, which the meeting is held each month to oversee and monitor the Company's operation. 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 were 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 were distributed to A Shareholders (the Ministry of Finance and the Ministry of Transport) and B Shareholders (Member Airlines) for acknowledgement and also available on website for shareholders.

### The Evaluation of Board of Directors

To be in line with the Good Corporate Governance practice, the Board of Directors did their evaluation to monitor themselves for better performing their duties. This evaluation also assisted them in setting the Company's direction and supervising the management properly. The evaluation was conducted every six months and based on two categories: Self Assessment and Board Evaluation.

Category of evaluation	First Evaluation (October 2015 – March 2016)	Second Evaluation (April – September 2016)		
	Point	Level	Point	Level
Self Assessment	107.50/112	Excellent	104.40/112	Excellent
Board Evaluation	116.50/120	Excellent	117.00/120	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 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 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 2016, the Board of Directors participated in training and seminars arranged by the King's Prajadhipok's Institute and Capital Market Academy (CMA). They also joined the various activities such as the AEROTHAI 2016 Innovation Fair and site visits to the provincial Air Traffic Control Centres 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, presentation and facility visit. The documents proposed 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 and duties, terms, Board meeting and its allowances, Sub-Committee and their authorization and duties, information of independent directors, the evaluation, the application to be 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 2016, the Company was 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 2016, two out of the following four Authorized Directors could co-sign and affix the Company seal to bind the Company:

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

## THE SECRETARY TO THE BOARD OF DIRECTORS

1. Mrs. Sarinee Angsusingha Secretary  
President
2. Mr. Suttipong Kongpool Assistant Secretary  
Expert, Executive Vice President Level
3. Miss Duangta Samitsuwan 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 2016, the Board of Directors held thirteen meetings with attendance details as follows:

Name	Number of Attendances
Chief Marshal (Retd) Itthaporn Subhawong <sup>1/</sup>	13/13
General Kanit Sapitaks <sup>2/</sup>	13/13
Mr. Krisada Chinavicharana <sup>3/</sup>	2/3
Mr. Prasit Suebchana <sup>4/</sup>	8/10
Mr. Chaicharearn Atibaedya <sup>1/</sup>	10/13
Mr. Wanchart Santikunchorn <sup>5/</sup>	6/6
Colonel Peerawat Promkladpanao <sup>1/</sup>	13/13
Mr. Puttipong Prasarttong-Osoth <sup>6/</sup>	9/13
Mr. Pongsak Somchai <sup>7/</sup>	13/13
Mrs. Sarinee Angsusingha <sup>8/</sup>	12/13

(The absent attendants were due to overseas engagement.)

### Remarks:

1/ Appointed on 15 August 2014

2/ Appointed as the Director and Vice Chairman on 15 August 2014 and 18 August 2014 and resigned on 27 January 2016 and reappointed on that day

3/ Appointed as the Director on 15 August 2014 and retired on 24 December 2015

4/ Appointed as the Director on 25 January 2016

5/ Appointed as the Director on 15 August 2014 and resigned on 27 January 2016 and reappointed on that day and retired on 26 May 2016

6/ Appointed on 18 April 2012 and resigned on 28 January 2015 and reappointed on 17 March 2016

7/ Appointed on 26 January 2015 and resigned on 27 January 2016 and reappointed on that day and retired on 1 October 2016

8/ Appointed on 15 August 2014 and resigned on 27 January 2016 and reappointed on that day

### **The Executive Committee**

The Executive Committee consists of not less than three members and not more than five members. In the fiscal year 2016, the Executive Committee on the pending changes between years as follows:

- Between 1 October 2015 – 23 December 2015 consisted of:

- |    |               |                   |                      |
|----|---------------|-------------------|----------------------|
| 1. | Mr. Krisada   | Chinavicharana    | Chairman             |
| 2. | Mr. Puttipong | Prasarttong-Osoth | Member               |
| 3. | Mr. Wanchart  | Santikunchorn     | Member               |
| 4. | Mrs. Sarinee  | Angsusingha       | Member and Secretary |
| 5. | Mr. Suttipong | Kongpool          | Assistant Secretary  |
| 6. | Miss Duangta  | Samitsuwan        | Assistant Secretary  |
| 7. | Mrs. Thaniya  | Suntharasantic    | Assistant Secretary  |

- Between 25 January 2016 – 30 September 2016 consisted of:

- |    |               |                   |                      |
|----|---------------|-------------------|----------------------|
| 1. | Mr. Prasit    | Suebchana         | Chairman             |
| 2. | Mr. Puttipong | Prasarttong-Osoth | Member               |
| 3. | Mr. Wanchart  | Santikunchorn     | Member               |
| 4. | Mrs. Sarinee  | Angsusingha       | Member and Secretary |
| 5. | Mr. Suttipong | Kongpool          | Assistant Secretary  |
| 6. | Miss Duangta  | Samitsuwan        | Assistant Secretary  |
| 7. | 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 nor more than five persons".



### The Executive Committee's Attendance

In the fiscal year 2016, the Executive Committee held thirteen meetings with attendance details as follows:

Name	Number of Attendances
Mr. Krisada Chinavicharana <sup>1/</sup>	3/3
Mr. Prasit Suebchana	9/9
Mr. Puttipong Prasarttong-Osoth	12/13
Mr. Wanchart Santikunchorn <sup>2/</sup>	8/8
Mrs. Sarinee Angsusingha	13/13

(The absent attendants were due to overseas engagement.)

### Remarks:

1/ Appointed as the Director on 15 August 2014 and retired on 24 December 2015

2/ Appointed as the Directors on 15 August 2014 and resigned on 27 January 2016 and reappointed on that day and retired on 26 May 2016

### The Audit Committee

In the fiscal year 2016, the Audit Committee consisted of:

- |   |               |                     |
|---|---------------|---------------------|
| 1. General Kanit  | Sapitaks      | Chairman            |
| 2. Mr. Chaicharearn   | Atibaedya     | Member              |
| 3. Colonel Peerawat   | Promkladpanao | Member              |
| 4. Vice President (Office of Internal Audit)                              |               | Secretary           |
| 5. Senior Director, Core Business and Information Technology Audit Bureau |               | Assistant Secretary |
| 6. Senior Director, Support and Planning Audit Bureau                     |               | Assistant 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.
4. 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 2016, the Risk Management Committee 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
5. Vice President (Office of Policy and Strategy)		Secretary
6. Senior Director, Policy and Strategy Management Bureau		Assistant Secretary

**Remark:** 1/ Retired on 26 May 2016

### Responsibilities

The Risk Management Committee considers all aspects or situations that might pose 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 2016, the Remuneration Committee consisted of:

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

### 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.

In fiscal year 2016, the Remuneration Committee held three meetings with attendance details as follows:

Name	Number of Attendances
Mr. Puttipong Prasarttong-Osoth	3/3
Mr. Chaicharearn Atibaedya	3/3
Colonel Peerawat Promkladpanao	3/3
Miss Tipaporn Nippakakorn	3/3
Mr. Chana Tadtasai	2/3

### The Corporate Governance and Corporate Social Responsibility Committee

In the fiscal year 2016, the Corporate Governance and Corporate Social Responsibility Committee consisted of:

- |   |                     |
|---|---------------------|
| 1. Air Chief Marshal (Retd) Itthaporn Subhawong | 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. Mr. Pongsak Somchai                          | Member              |
| 9. Mrs. Sarinee Angsusingha                     | Member              |
| 10. Vice President (Office of President)        | Secretary           |
| 11. Mr. Marnoch Sawatdee                        | Assistant Secretary |

**Remark:** 1/ Retired on 26 May 2016

### 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 2016, the Legal Committee consisted of:

1. Mr. Wanchart	Santikunchorn <sup>1/</sup>	Chairman
2. Mr. Pongsak	Somchai	Member
3. Miss Chunhachit	Sungmai	Member
4. Miss Nathbinee	Yuttidhammadamrong	Member
5. Mrs. Sarinee	Angsusingha	Member
6. Dr. Abhijai	Chandrasen	Legal Advisor
7. Vice President (Office of President)		Secretary
8. Senior Director, General Administration Bureau		Assistant Secretary

**Remark:** 1/ Retired on 26 May 2016

### Responsibilities

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

### Independent Directors

In the fiscal year 2016 the Independent Directors consisted of:

1. Air Chief Marshal (Retd) Itthaporn Subhawong
2. General Kanit Sapitaks
3. Mr. Chaicharearn Atibaedya
4. Mr. Wanchart Santikunchorn
5. Colonel Peerawat Promkladpanao

The Independent Directors have performed their duty in line with a principle of “Independence” which is defined as “a key to foster 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 of their own when the appointment and every year in the fiscal year 2016 The Board of Directors Meeting of the freedom and 2 times and the directors attending the meeting unanimously.

### 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 Board of Directors which includes fixed amount of remuneration, meeting remuneration, etc. as set by the Ministry of Finance.

Remuneration Rate for the Board of Directors and Committee Divided into Groups in the Fiscal Year 2016

No.	Committee	Total (Baht)
1.	The Board of Directors	1,095,000.00
2.	The Executive Committee	470,000.00
3.	The Audit Committee	390,000.00
4.	The Risk Management Committee	367,500.00
5.	The Remuneration Committee	97,500.00
6.	The Corporate Governance and Corporate Social Responsibility Committee	680,000.00
7.	The Legal Committee	253,500.00
<b>Total</b>		<b>3,353,500.00</b>

Remuneration Rate for the Board of Directors and Committee Divided individually in the Fiscal Year 2016

No.	Committee	Total (Baht)
1.	Air Chief Marshal (Retd) Itthaporn Subhawong	240,000.00
2.	General Kanit Sapitaks	120,000.00
3.	Mr. Prasit Suebchana	82,258.00
4.	Mr. Puttipong Prasarttong-Osoth	110,000.00
5..	Mr. Chaicharearn Atibaedya	120,000.00
6.	Colonel Peerawat Promkladpanao	120,000.00
7.	Mr. Pongsak Somchai	120,000.00
8.	Mrs. Sarinee Angsusingha	120,000.00
9.	Mr. Wanchart Santikunchora <sup>1/</sup>	77,741.94
10.	Mr. Krisda Chinavicharana <sup>2/</sup>	30,000.00
<b>Total</b>		<b>1,139,999.94</b>

Remarks: 1/ Retired on 24 December 2015

2/ Retired on 26 May 2016

### The Labor Relations Committee

In the fiscal year 2016, the Labor Relations Committee held 12 Meetings with attendance details as follows:

			Number of meeting
1. Mrs. Sarinee	Angsusingha	Chairman	11/12
2. Mrs. Onurai	Komain	Member	12/12
3. Mrs. Sirikes	Niemloy	"	11/12
4. Mr. Nuttawat	Supanundha	"	9/12
5. Miss Duangta	Samitsuwan	"	6/12
6. Miss Tipaporn	Nippakakorn	"	12/12
7. Mr. Waravut	Raphiphan	"	9/12
8. Miss Waraporn	Songcharoen	"	12/12
9. Mr. Chana	Tadtasail	"	12/12
10. Mrs. Kleawthong	Lapthananon	Member and Secretary	12/12
11. Mr. Parinya	Thienthong	Member	12/12
12. Flight Sergeant 1	Thanoo Ratanasupaphunt	"	10/12
13. Mr. Sukit Klinhom		"	11/12
14. Mr. Matee	Khamhaeng	"	12/12
15. Mr. Sangsith	Prasomthong	"	12/12
16. Flight Sergeant 1	Chaiyant Changrangkarn	"	11/12
17. Mr. Sapol	Singhadara	"	11/12
18. Mr. Weerayut	Weeragarn	"	11/12
19. Mrs. Kasamaporn	Sawatdichai	"	11/12

### Remuneration Rate for the Executive Management in the Fiscal Years 2014-2016

Fiscal Year	Number	Salary and Other Income
2016	5	30.24
2015	5	25.88
2014	5	22.74

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 FOR THE FISCAL YEAR 2016

The Audit Committee of Aeronautical Radio of Thailand Ltd. has been appointed since 18 August 2014 as follows:

- |                                    |          |
|------------------------------------|----------|
| 1. General Kanit Sapitaks          | Chairman |
| 2. Mr. Chaicharearn Atibaedya      | Member   |
| 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 2016, the Audit Committee held seven meetings which were attended by the senior management, Chief Audit Executive, and the management of Office of Internal Audit. The Audit Committee also held two special meetings 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:

- 1 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. Moreover, 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 4.00 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 4.00 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 2017. To agree to the budget for the fiscal year 2017. To appraise the Chief Audit Executive, Experts, Senior Director Level, Experts, Director Level and Internal Audit officers for their performance in the fiscal year 2016. To review the office of Internal Audit's training plan and resources for the fiscal year 2017. To follow up the progress of the internal audit implementation plan and review internal audit group annual report for the fiscal year 2016.
- 6 The quarterly review and annual financial statements audit fees of the Company are totally 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 been operated in accordance with appropriate internal control measurement, 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 principle and 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.

General



(Kanit Sapitaks)

Chairman of the Audit Committee

## **Internal Audit**

The Internal Audit duties and responsibilities are providing independent and fair assurance and consulting services that increase corporate value through improved Company's operations. The office performs duties as a tool of the Audit Committee and senior executives that help the Company achieve its overall objectives include reviewing and evaluating efficiency and effectiveness of internal control, good governance, risk management and supervision processes in compliance with related rules, regulations, Cabinet Resolutions and policies set by the Board of Directors.

The Internal Audit Office has developed an internal audit charter and manual that provides internal audit professional standard guidelines in line with State Enterprise Internal Audit Regulations B.E. 2012.

An Internal audit includes auditing for reliable financial information, legal, regulatory and policy compliance and ensuring that operational and working process that may affect corporate objectives and goals are adequately controlled. It also includes evaluating and maximizing resources management. COSO compliance is achieved through continuous environment risk evaluations that are followed-up with performance result reviews that include measuring fraud prevention internal control adequacy and efficiency.

### **◆ 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 professionals' code of ethics. Each person must attend not less than 40 hours training per year. Currently, internal auditors received Certified Internal Auditors: (CIA), Certified Information System Auditors (CISA), Certified Public Accountant (CPA), Certified Professional Internal Auditors of Thailand (CPIAT) and Certified Professional Internal Auditors (CPIA) designations.

### **◆ Internal Auditor's Quality Control:**

The audit quality will be reviewed by the senior auditors while working satisfaction will be rated by the yearly internal auditor's self assessment and the auditees. Moreover, The Office is required to have a Quality Assessment Review (QAR) conducted by external independent appraisers every five years. The last assessment was done in 2015, with continuous improvement taken into consideration the suggestions from the assessment.

**Financial Report****Report of the Board of Directors' responsibility to the financial statements**

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 financial information which was presented in the 2016 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 important 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.

### The Company's Operation Analysis - Separate Financial Statements of the Company

The Company's total income in the Fiscal Year 2016 was over total expenditure with overcollection of Baht 2,362.87 Million, which will be accumulated and refunded to Member Airlines in the future.

Unit: Million Baht

Items	2016	2015	Increase (Decrease)	
			Amount	%
<b>Income</b>				
Air Navigation Services	10,898.96	9,954.07	944.89	9
Other Related Services	681.32	585.88	95.44	16
Other Income	58.65	233.43	(174.78)	(75)
<b>Total Income</b>	<b>11,638.93</b>	<b>10,773.38</b>	<b>865.55</b>	<b>8</b>
<b>Expenditure</b>				
Operating Expenditure	9,209.72	8,776.22	433.50	5
Finance Costs	66.34	87.75	(21.41)	(24)
<b>Total Expenditure</b>	<b>9,276.06</b>	<b>8,863.97</b>	<b>412.09</b>	<b>5</b>
<b>Overcollection to Member Airlines</b>	<b>2,362.87</b>	<b>1,909.41</b>	<b>453.46</b>	<b>24</b>

### Income Analysis

The Company's total income in the Fiscal Year 2016 was Baht 11,638.93 million. This was derived mainly from income from air navigation services of Baht 10,898.96 million or 94% of total income along with income from other related services including rental and maintenance of equipment, aeronautical telecommunications services (AOC), and work orders accounting for 6% of total income or Baht 681.32 million. In addition, income from other services was Baht 58.65 million.

Actual income from air navigation services was Baht 10,898.96 million with an increase of Baht 944.89 million or 9% from the previous year. This was a result of air traffic growth by 14.3% as airlines increased the flights, mainly from both domestic and overfly flights of Member Airlines.

Income of Baht 681.32 million from other related services increased by 16% or Baht 95.44 million from the previous year mainly due to increased income from rental and maintenance of equipment and Airline Operational Control services (AOC). The other income of Baht 58.65 million decreased by 75% or Baht 174.78 million from the previous year which derived from delayed penalty in delivery of work orders.

### Expenditure Analysis

The Company's total expenditure in the Fiscal Year 2016 was Baht 9,276.06 million, of which Baht 6,941.14 million was accounted for employee benefits, Baht 2,268.58 million was other operating expenditure, and the remaining Baht 66.34 million was the cost of finance. This year, the Company could save the operating expenditure of Baht 275.85 million with the cost control measures, which do not affect the core business and safety standards.

### Analysis of Financial Status – Financial statements of the Company and Subsidiary

#### Assets Analysis

The Company and subsidiary's total assets as at 30 September 2016 were Baht 13,385.61 million, comprised of 44% current assets and 56% non-current assets, with the following details:

Unit: Million Baht

Items	2016	2015	Increase (Decrease)	
			Amount	%
<b>Current Assets</b>	5,922.06	5,552.51	369.55	7
<b>Non-current Assets</b>				
- Long-Term Investments	10.10	48.10	(38.00)	(79)
- Long-Term Loans to Staff	4.27	5.64	(1.37)	(24)
- Buildings and Equipment -Net	5,206.70	4,477.22	729.48	16
- Intangible Assets	43.18	16.97	26.21	154
- Assets under Construction	2,199.30	1,989.52	209.78	11
<b>Total</b>	<b>13,385.61</b>	<b>12,089.96</b>	<b>1,295.65</b>	<b>11</b>

In 2016, total assets increased by 11% or Baht 1,295.65 million from the previous year, mainly non-current assets increased due to the increase in assets under construction, buildings and equipment.

### Liabilities Analysis

The Company and subsidiary's total liabilities as at 30 September 2016 were Baht 12,465.33 million, comprised of 65% current liabilities and 35% non-current liabilities with the following details:

Unit: Million Baht

Items	2016	2015	Increase (Decrease)	
			Amount	%
Current Liabilities	7,586.85	6,314.73	1,272.12	20
Current Portion of Long-Term Liabilities	542.03	559.54	(17.51)	(3)
Non-current Liabilities				
- Children's Educational Support	0.11	0.10	0.01	10
- Long-Term Loans	2,359.29	2,835.42	(476.13)	(17)
- Employee Benefits Obligations	1,977.05	1,488.88	488.17	33
- Provisions	-	2.06	(2.06)	(100)
<b>Total</b>	<b>12,465.33</b>	<b>11,200.73</b>	<b>1,264.60</b>	<b>11</b>

In 2016, total liabilities increased by 11% or Baht 1,264.60 million from the previous year. The current liabilities were mainly the accumulated overcollection at Baht 5,849.29 million, comprised of the remaining accumulated overcollection in 2015 at Baht 3,867.02 million which had been paid for capital expenditure but still presented as liabilities to comply with Thai Accounting Standards (TAS) and the overcollection in 2016 at Baht 2,362.87 million.

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

### Shareholders' Equity Analysis

The Company and subsidiary's shareholders' equity as at 30 September 2016 was Baht 920.28 million with the following details:

Unit: Million Baht

Items	2016	2015	Increase (Decrease)	
			Amount	%
Registered Ordinary Share Capital	660.00	660.00	-	-
Staff Welfare Fund	260.28	229.23	31.05	14
<b>Total</b>	<b>920.28</b>	<b>889.23</b>	<b>31.05</b>	<b>3</b>

The capital structure as at 30 September 2016 comprised of total liabilities of Baht 12,465.33 million or 93% and shareholders' equity of Baht 920.28 million or 7%.

#### Cash Flow Analysis – Financial statements of the Company and Subsidiary

In Fiscal Year 2016, the Company and subsidiary's ending balance of cash and cash equivalents as at 30 September 2016 was Baht 2,661.07 million, which decreased from the beginning balance by Baht 1,289.71 million. Net cash provided by operating activities was mainly from overcollection 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 repayment of long-term loans that were due.

Unit: Million Baht

Items	2016	2015	Increase (Decrease)
Cash Flow from Operating Activities	2,838.69	3,562.67	(723.98)
Cash Flow from Investing Activities	(3,552.89)	(2,094.20)	(1,458.69)
Cash Flow from Financing Activities	(572.95)	(745.87)	172.92
Gain (Loss) on Exchange Rate	(2.56)	0.87	(3.43)
Cash and Cash Equivalents -At the end of the period	2,661.07	3,950.78	(1,289.71)

#### Financial Ratio Analysis – Financial statements of the Company and Subsidiary

In Fiscal Year 2016, the Company and subsidiary's debt-to-equity ratio increased from the previous year due to the 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 overcollection and higher depreciation of the completed projects.

Items	2016	2015	Increase (Decrease)
Debt-to-Equity Ratio (times)	13.55	12.60	0.95
Debt-to-Equity Ratio (times) (Not including accumulated overcollection)	7.19	8.25	(1.06)
Debt Service Coverage Ratio (times)	1.44	1.21	0.23

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

### Financial Trend

According to the Company's 2017 Financial Plan (Years 2017 - 2021) which was approved by the Company's Board of Directors at the 9th/2016 (592) Meeting on 28 August 2016, the total income is expected to be Baht 12,827.11 million consisting of ANS Charges at Baht 12,115.75 million and other related services and other income of Baht 711.36 million. The expected operating expenditure is Baht 12,435.22 million. Thus, the expected income-over-expenditure is at Baht 391.89 million. Moreover, the Company forecasted the increase of overall air traffic volume in 2017 at 12% from 2016. 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 Capital Expenditure Budget in 2017 is approved by the Cabinet on 27 September 2016 at the ceiling of Baht 2,112.27 million and in the Company's Corporate Plan for the years 2017 – 2021, the investment is used for the development of new technology of Air Navigation Service System which will improve the efficiency of service to reach the most satisfaction of customers in terms of safety, utilities and international aviation standards. The Capital Expenditures will be funded by long term loan and overcollection or remaining working capital.

From 5-year financial projection according to Annual Financial Plan of 2017 (2017–2021), the Company will have income-over-expenditure throughout the next 5 years in which income is expected to increase at an average rate of 7% per annum. For Income derives from ANS Charges, the Company will maintain the current unit rate of ANS Charges until 2021. The operating expenditure is expected to increase at an average rate of 8% per annum.

For 5-year investment plan according to the Company's Corporate Plan for 2017–2021, the Company's investment budget ceiling is expected at approximately Baht 14,544.41 million in which sources of investment derives from overcollection and other remaining working capital as well as loan from external financing.

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## AUDITOR'S REPORT

### **To the Shareholders of Aeronautical Radio of Thailand Ltd.**

The Office of the Auditor General of Thailand has audited the accompanying consolidated and separate financial statements of Aeronautical Radio of Thailand Ltd. and its subsidiary and separate financial statements of Aeronautical Radio of Thailand Ltd., respectively, which comprise of the consolidated and separate statements of financial position as at 30 September 2016, and the consolidated and separate Statements of Comprehensive Income and Expenditure and statements of cash flows for the years then ended as well as summary of significant accounting policies and other explanatory information.

### **Management's Responsibility for the consolidated and separate financial statements**

The Management is responsible for the preparation and presentation of these consolidated and separate financial statements in accordance with Thai Financial Reporting Standards as well as maintaining the necessary internal controls to ensure that the preparation and presentation of the consolidated and separate financial statements are free from material misstatement, whether due to fraud or error.

### **Auditor's Responsibility**

The Office of the Auditor General of Thailand's responsibility is to express an opinion on these consolidated and separate financial statements based on the audit. The Office of the Auditor General of Thailand conducted the audit in accordance with the Generally Accepted Auditing Standards. Those standards require that the Auditor General of Thailand complies with ethical requirements including planning and performing the audit to obtain reasonable assurance that the consolidated and separate financial statements are free from material misstatement.

The audit involves performing procedures to obtain audit evidences relating to the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the risk assessments of material misstatement of the consolidated and separate financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the preparation and presentation of the consolidated and separate financial statements in order to design audit procedures which are appropriate in the circumstances without the purpose of expressing an opinion on the effectiveness of the Company's internal control. The audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of the accounting estimates made by management, as well as evaluating the overall presentation of the consolidated and separate financial statements.

The Office of the Auditor General of Thailand believes that the audit evidences which the Office of the Auditor General of Thailand has obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### **Opinion**

In the Office of the Auditor General of Thailand's opinion, the consolidated and separate financial statements referred above present fairly, in all material respects, the consolidated and separate financial position of Aeronautical Radio of Thailand Ltd. and its subsidiary and of Aeronautical Radio of Thailand Ltd., respectively, as at 30 September 2016 and their consolidated and separate financial performance and cash flows for the year then ended are in accordance with Thai Financial Reporting Standards.

Signed

(Mrs. Nipaporn Punyanon)

Director of Financial Audit Office No.4

Signed

(Mrs. Sulaiwon Phianphoemphat)

Division Director

## AERONAUTICAL RADIO OF THAILAND LTD. AND SUBSIDIARY

## Statements of Financial Position

As at 30 September 2016

Unit : Baht

	Supplementary	Consolidated Financial Statements		Separate Financial statements	
	Information	2016	2015	2016	2015
Assets					
Current Assets					
Cash and Cash Equivalents	5.1	2,661,066,652.57	3,950,779,087.72	2,584,530,515.12	3,888,217,551.45
Temporary Investment	5.2	1,917,572,038.60	106,310,178.33	1,758,255,689.32	2,000.00
Receivables from ANS and Other Receivables	5.3	1,190,996,220.16	1,325,318,272.58	1,173,532,238.54	1,306,994,190.98
Short-Term Loans to Staff		14,694,980.00	13,713,877.00	-	-
Store Supplies	5.4	133,212,154.40	148,240,046.40	133,212,154.40	148,240,046.40
Other Current Assets	5.5	4,521,078.09	8,151,244.27	4,521,078.09	8,151,244.27
Total Current Assets		5,922,063,123.82	5,552,512,706.30	5,654,051,675.47	5,351,605,033.10
Non-Current Assets					
Other Long-Term Investments	5.6	10,100,000.00	48,100,000.00	10,000,000.00	10,000,000.00
Long-Term Loans to Staff		4,271,000.00	5,644,997.00	-	-
Buildings and Equipment	5.7	5,206,703,407.65	4,477,218,600.14	5,206,053,330.29	4,476,517,598.56
Intangible Assets	5.8	43,178,008.80	16,966,175.40	43,178,008.80	16,966,175.40
Assets under Construction	5.9	2,199,295,130.56	1,989,516,342.34	2,199,295,130.56	1,989,516,342.34
Total Non-Current Assets		7,463,547,547.01	6,537,446,114.88	7,458,526,469.65	6,493,000,116.30
Total Assets		13,385,610,670.83	12,089,958,821.18	13,112,578,145.12	11,844,605,149.40

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

AERONAUTICAL RADIO OF THAILAND LTD. AND SUBSIDIARY  
Statements of Financial Position  
As at 30 September 2016

Unit : Baht

	Supplementary	Consolidated Financial Statements		Separate Financial statements	
	Information	2016	2015	2016	2015
Liabilities and Shareholders' Equity					
Current Liabilities					
Trade and Other Payables	5.10	1,220,069,131.84	1,271,117,689.87	1,211,530,424.54	1,258,633,231.65
Current Portion of Long-Term Liabilities	5.11	542,026,000.00	559,540,000.00	542,026,000.00	559,540,000.00
Accrued Expenses	5.12	97,965,309.40	1,026,157,545.89	94,168,929.40	1,022,981,318.89
Interest Payable		24,765,369.46	37,737,858.54	24,765,369.46	37,737,858.54
Accumulated Overcollection	5.13	5,849,289,768.15	3,867,019,023.00	5,849,289,768.15	3,867,019,023.00
Other Current Liabilities	5.14	394,758,521.95	112,696,877.02	394,450,803.90	112,334,823.11
Total Current Liabilities		8,128,874,100.80	6,874,268,994.32	8,116,231,295.45	6,858,246,255.19
Non-Current Liabilities					
Children's Educational Support		106,567.08	104,785.72	-	-
Long-Term Loans	5.15	2,359,294,000.00	2,835,420,000.00	2,359,294,000.00	2,835,420,000.00
Employee Benefit Obligations	5.16	1,977,052,849.67	1,488,877,384.46	1,977,052,849.67	1,488,877,384.46
Provisions	5.17	-	2,061,509.75	-	2,061,509.75
Total Non-Current Liabilities		4,336,453,416.75	4,326,463,679.93	4,336,346,849.67	4,326,358,894.21
Total Liabilities		12,465,327,517.55	11,200,732,674.25	12,452,578,145.12	11,184,605,149.40
Shareholders' Equity					
Share Capital	5.18				
Registered Ordinary Share Capital					
6,600,000 shares of Baht 100.00 each		660,000,000.00	660,000,000.00	660,000,000.00	660,000,000.00
Paid-in Capital					
6,600,000 shares of Baht 100.00 each		660,000,000.00	660,000,000.00	660,000,000.00	660,000,000.00
Staff Welfare Fund		260,283,153.28	229,226,146.93	-	-
Total Shareholders' Equity		920,283,153.28	889,226,146.93	660,000,000.00	660,000,000.00
Total Liabilities and Shareholders' Equity		13,385,610,670.83	12,089,958,821.18	13,112,578,145.12	11,844,605,149.40

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

Signed  
(Mrs. Sarinee Angsusingha)  
President

Signed  
(Mrs. Chidkamol Soonthornsit)  
Vice President (Finance)

AERONAUTICAL RADIO OF THAILAND LTD. AND SUBSIDIARY  
Statements of Comprehensive Income and Expenditure  
For the year ended 30 September 2016

Unit : Baht						
		Supplementary	Consolidated Financial Statements		Separate Financial statements	
		Information	2016	2015	2016	2015
Income						
Income from Air Navigation Service Charges			10,898,960,189.99	9,954,074,019.69	10,898,960,189.99	9,954,074,019.69
Equipment rental, Maintenance and NOC income			571,555,606.82	492,047,142.68	571,555,606.82	492,047,142.68
Revenue from work orders			109,761,252.35	93,829,325.48	109,761,252.35	93,829,325.48
Other Income		5.20	58,653,662.71	233,433,672.33	58,653,662.71	233,433,672.33
Income from Welfare Fund			21,414,015.51	23,243,610.82	-	-
Total income			11,660,344,727.38	10,796,627,771.00	11,638,930,711.87	10,773,384,160.18
Expenditure						
Costs of production			68,660,104.37	53,054,012.07	68,660,104.37	53,054,012.07
Supplies used			36,003,411.19	44,976,982.96	36,003,411.19	44,976,982.96
Employee Benefit Expenses		5.21	6,677,129,696.44	6,227,125,500.22	6,941,137,274.50	6,469,967,450.86
Depreciation and Amortization Expenses			807,985,394.08	712,142,483.42	807,985,394.08	712,142,483.42
Maintenance of Assets & Equipment			265,896,680.01	332,957,988.97	265,896,680.01	332,957,988.97
Assets Rental and Property Tax			305,893,475.62	320,794,685.53	305,893,475.62	320,794,685.53
Utilities and Communication Expenses			162,970,447.23	157,590,834.34	162,970,447.23	157,590,834.34
Other Expenses		5.22	621,172,863.10	684,733,006.07	621,172,863.10	684,733,006.07
Finance costs			66,338,033.98	87,752,932.03	66,338,033.98	87,752,932.03
Welfare Fund Expenses		5.23	254,364,587.22	231,939,311.90	-	-
Total Expenditure			9,266,414,693.24	8,853,067,737.51	9,276,057,684.08	8,863,970,376.25
Overcollection to be refunded to Member Airlines			2,362,873,027.79	1,909,413,783.93	2,362,873,027.79	1,909,413,783.93
Income-over- Expenditure - Staff Welfare Fund			31,057,006.35	34,146,249.56	-	-

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

Signed  
(Mrs. Sarinee Angsusingha)  
President

Signed  
(Mrs. Chidkamol Soonthornsit)  
Vice President (Finance)

**AERONAUTICAL RADIO OF THAILAND LTD. AND SUBSIDIARY**

**Statements of Cash Flows**

**For the year ended 30 September 2016**

Unit : Baht

	Consolidated Financial Statements		Separate Financial statements	
	2016	2015	2016	2015
<b>Cash Flows from Operating Activities:</b>				
Overcollection to Member Airlines excluding dividend	2,362,738,773.65	1,909,386,933.10	2,362,738,773.65	1,909,386,933.10
Income-over-expenses to welfare fund	31,057,006.35	34,146,249.56	-	-
Reconciliations of Overcollection or (Under-Recovery) as Cash Receipts or (Disbursements) from Operating Activities:				
(Gain) Loss on Currency Exchange rate	4,612,156.89	(4,394,633.38)	4,612,156.89	(4,394,633.38)
Loss on Interest Rate Swap Agreement	-	123,682.17	-	123,682.17
Doubtful Accounts Expense	20,017,544.63	86,088,788.37	20,017,544.63	86,088,788.37
Bad Debts Expense	1,861,537.35	1,485,277.94	1,861,537.35	1,485,277.94
Depreciation and Amortization	808,113,251.30	712,215,466.42	807,985,394.08	712,142,483.42
Assets under construction transferred to Expenses	5,987,804.74	1,816,234.92	5,987,804.74	1,816,234.92
Gain on Fixed Assets Disposal	(1,073,994.82)	(997,481.16)	(1,073,994.82)	(997,481.16)
Loss on Retirement of Assets	1,961,052.12	1,886,920.53	1,961,052.12	1,886,920.53
Deferred Income	(1,106,834.98)	(1,210,759.71)	(1,106,834.98)	(1,210,759.71)
Interest Received	(48,004,747.74)	(63,220,697.50)	(43,825,096.73)	(58,290,334.59)
Interest Expense	66,338,033.98	87,752,932.03	66,338,033.98	87,752,932.03
Employee Benefit Obligations	550,828,659.99	612,037,016.68	550,828,659.99	612,037,016.68
Provisions	(2,061,509.75)	2,061,509.75	(2,061,509.75)	2,061,509.75
Overcollection to be refunded to Member Airlines before any changes in Operating Assets and Liabilities	3,801,268,733.71	3,379,177,439.72	3,774,263,521.15	3,349,888,570.07
Changes in Operating Assets and Liabilities				
Operating Assets (Increase) Decrease				
Receivables from ANS and Other Receivables	114,216,237.37	(199,602,687.95)	113,376,515.48	(195,291,161.46)
Store supplies	15,027,892.00	(7,726,637.99)	15,027,892.00	(7,726,637.99)
Other Current Assets	3,630,166.18	(434,218.89)	3,630,166.18	(434,218.89)
Operating Liabilities Increase (Decrease)				
Trade and Other Payables	(50,887,013.89)	609,846,322.72	(46,941,262.97)	605,140,743.45
Accumulated Overcollection	(380,602,282.64)	(341,676,792.68)	(380,602,282.64)	(341,676,792.68)
Accrued Expenses	(928,192,236.49)	110,263,093.15	(928,812,389.49)	113,001,544.15
Other Current Liabilities	282,861,079.91	23,368,624.16	282,915,415.77	23,287,239.10
Children's Educational Support	1,781.36	2,054.62	-	-
Cash Receipts from Operating Activities	2,857,324,357.51	3,573,217,196.86	2,832,857,575.48	3,546,189,285.75
Interest Received	44,020,047.67	62,396,403.06	39,820,018.57	57,445,779.57
Employee Benefits paid	(62,653,194.78)	(72,944,357.23)	(62,653,194.78)	(72,944,357.23)
<b>Net Cash provided by (used in) Operating Activities</b>	<b>2,838,691,210.40</b>	<b>3,562,669,242.69</b>	<b>2,810,024,399.27</b>	<b>3,530,690,708.09</b>

**AERONAUTICAL RADIO OF THAILAND LTD. AND SUBSIDIARY**

**Statements of Cash Flow (continued)**

**For the year ended 30 September 2016**

Unit : Baht

	Consolidated Financial Statements		Separate Financial statements	
	2016	2015	2016	2015
<b>Cash Flows from Investing Activities:</b>				
Dividend Received	134,254.14	26,850.83	134,254.14	26,850.83
Cash Deposit at Bank (Temporary Investment)	2,353,800,412.60	-	2,353,800,412.60	-
Cash Withdrawal from Bank (Temporary Investment)	(4,165,062,272.87)	(12,020.65)	(4,112,054,101.92)	(2,000.00)
Payment Received from Short-Term Loan to Staff	57,331,897.00	53,393,747.00	-	-
Cash Paid to Short-Term Loan to Staff	(58,313,000.00)	(60,103,072.00)	-	-
Payment Received from Long-Term Loan to Staff	24,891,404.00	34,435,860.00	-	-
Cash Paid to Long-Term Loan to Staff	(23,517,407.00)	(29,274,453.00)	-	-
Cash Paid for Acquisition of Assets under Construction	(1,780,878,609.59)	(2,054,107,072.20)	(1,780,878,609.59)	(2,054,107,072.20)
Cash Paid for Acquisition of Equipment and Software	(351,527.70)	(1,528,056.45)	(274,594.70)	(1,022,646.45)
Cash Deposits (Paid) to Long-Term Investment	38,000,000.00	(38,000,000.00)	-	-
Proceeds from Sale of Equipment	1,073,994.82	969,473.85	1,073,994.82	969,473.85
<b>Net Cash provided by (used in) Investing Activities</b>	<b>(3,552,890,854.60)</b>	<b>(2,094,198,742.62)</b>	<b>(3,538,198,644.65)</b>	<b>(2,054,135,393.97)</b>
<b>Cash Flows from Financing Activities:</b>				
Proceeds from long-term loans	2,075,430,000.00	-	2,075,430,000.00	-
Payments for long-term loans	(1,642,830,000.00)	-	(1,642,830,000.00)	-
Payments for long-term loans – due within 1 year	(926,240,000.00)	(644,540,000.00)	(926,240,000.00)	(644,540,000.00)
Cash paid to interest on loans	(79,310,523.06)	(101,334,539.83)	(79,310,523.06)	(101,334,539.83)
<b>Net Cash provided by (used in) Financing Activities</b>	<b>(572,950,523.06)</b>	<b>(745,874,539.83)</b>	<b>(572,950,523.06)</b>	<b>(745,874,539.83)</b>
<b>Net Increase in Cash and Cash Equivalents</b>	<b>(1,287,150,167.26)</b>	<b>722,595,960.24</b>	<b>(1,301,124,768.44)</b>	<b>730,680,774.29</b>
<b>Cash and Cash Equivalents at the beginning of the year</b>	<b>3,950,779,087.72</b>	<b>3,227,308,561.01</b>	<b>3,888,217,551.45</b>	<b>3,156,662,210.69</b>
<b>Gain or loss on revaluation of foreign exchange</b>	<b>(2,562,267.89)</b>	<b>874,566.47</b>	<b>(2,562,267.89)</b>	<b>874,566.47</b>
<b>Cash and Cash Equivalents at the end of the year</b>	<b>2,661,066,652.57</b>	<b>3,950,779,087.72</b>	<b>2,584,530,515.12</b>	<b>3,888,217,551.45</b>

# **AERONAUTICAL RADIO OF THAILAND LTD. AND SUBSIDIARY**

## **Notes to Financial Statements**

**For the year ended 30 September 2016**

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### **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 International Civil Aviation Organization's (ICAO) standards and recommended practices. The services are provided safely, frequently, efficiently and in accordance with 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. and subsidiary 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 2016:

TAS 1	(revised 2015): Presentation of Financial Statements
TAS 2	(revised 2015): Inventories
TAS 7	(revised 2015): Statement of Cash Flows
TAS 8	(revised 2015): Accounting Policies, Changes in Accounting Estimates and Errors
TAS 10	(revised 2015): Events after the Reporting Period
TAS 11	(revised 2015): Construction Contracts
TAS 12	(revised 2015): Income taxes
TAS 16	(revised 2015): Property, Plant and Equipment
TAS 17	(revised 2015): Leases
TAS 18	(revised 2015): Revenue



TAS 19 (revised 2015): Employee Benefits

TAS 20 (revised 2015): Accounting for Government Grants and Disclosure of Government Assistance

TAS 21 (revised 2015): The Effects of Changes in Foreign Exchange Rates

TAS 23 (revised 2015): Borrowing Cost

TAS 24 (revised 2015): Related Party Disclosures

TAS 26 (revised 2015): Accounting and Reporting by Retirement Benefit Plans

TAS 27 (revised 2015): Separate Financial Statements

TAS 28 (revised 2015): Investment in Associates

TAS 29 (revised 2015): Financial Reporting in Hyperinflationary Economics

TAS 33 (revised 2015): Earnings per Share

TAS 34 (revised 2015): Interim Financial Reporting

TAS 36 (revised 2015): Impairment of Assets

TAS 37 (revised 2015): Provisions, Contingent Liabilities and Contingent Assets

TAS 38 (revised 2015): Intangible Assets

TAS 40 (revised 2015): Investment Property

TAS 41 : Agriculture

TFRS 2 (revised 2015): Share-based Payments

TFRS 3 (revised 2015): Business Combinations

TFRS 4 (revised 2015): Insurance Contracts

TFRS 5 (revised 2015): Non-current Assets Held for Sale and Discontinued Operations

TFRS 6 (revised 2015): Exploration for and Evaluation of Mineral Resources

TFRS 8 (revised 2015): Operating Segments

TFRS 10 (revised 2015): Consolidated Financial Statements

TFRS 11 (revised 2015): Joint Arrangements

TFRS 12 (revised 2015): Disclosure of Interest in Other Entities

TFRS 13 (revised 2015): Fair Value Measurement

TSIC 10 (revised 2015): Government Assistance – No Specific Relation to Operating Activities

TSIC 15 (revised 2015): Operating Leases – Incentives

TSIC 25 (revised 2015): Income Taxes – Changes in the Tax Status of an Entity or its Shareholders

TSIC 27 (revised 2015): Evaluating the Substance of Transactions Involving the Legal Form of a Lease

TSIC 29 (revised 2015): Service Concession Arrangements: Disclosures

TSIC 31 (revised 2015): Revenue – Barter Transactions Involving Advertising Services

TSIC 32 (revised 2015): Intangible Assets -Web Site Costs

TFRIC 1 (revised 2015): Changes in Existing Decommissioning, Restoration and Similar Liabilities

TFRIC 4 (revised 2015): Determining whether an Arrangement contains a Lease

TFRIC 5 (revised 2015): Rights to Interests arising from Decommissioning, Restoration and Environmental Rehabilitation Funds

TFRIC 7 (revised 2015): Applying the Restatement Approach under TAS 29 (revised 2015) Financial Reporting in Hyperinflationary Economics

TFRIC 10 (revised 2015): Interim Financial Reporting and Impairment

TFRIC 12 (revised 2015): Service Concession Arrangements

TFRIC 13 (revised 2015): Customer Loyalty Programmes

TFRIC 14 (revised 2015): Minimum Funding Requirements and their Interaction

TAS 19 (revised 2015) - The Limit on a Defined Benefit Asset

TFRIC 15 (revised 2015): Agreements for the Construction of Real Estate

TFRIC 17 (revised 2015): Distributions of Non-cash Assets to Owners

TFRIC 18 (revised 2015): Transfer of Assets from Customers

TFRIC 20 (revised 2015): Stripping Costs in the Production Phase of a Surface Mine

TFRIC 21 (revised 2015): Levies

- Effective for accounting periods on or after 1 January 2017:

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 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

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TAS 33 (revised 2016): Earnings per Share

TAS 36 (revised 2016): Impairment of Assets

TAS 37 (revised 2016): Provisions, Contingent Liabilities and Contingent Assets  
 TAS 40 (revised 2016): Investment Property  
 TAS 41 (revised 2016): Agriculture  
 TFRS 2 (revised 2016): Share-based Payments  
 TFRS 3 (revised 2016): Business Combinations  
 TFRS 4 (revised 2016): Insurance Contracts  
 TFRS 6 (revised 2016): Exploration for and Evaluation of Mineral Resources  
 TFRS 8 (revised 2016): Operating Segments  
 TFRS 11 (revised 2016): Joint Arrangements  
 TFRS 12 (revised 2016): Disclosure of Interests in Other Entities  
 TFRS 13 (revised 2016): Fair Value Measurement  
 TSIC 10 (revised 2016): Government Assistance – No Specific Relation to Operating Activities  
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 TSIC 25 (revised 2016): Income Taxes – Changes in the Tax Status of an Entity or its Shareholders  
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 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  
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 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

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 2016 and 1 January 2017 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 Allowance 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 have been recorded at cost on the weighted average basis. For overseas purchases, import formality handling charges are recorded as operating expenditure.

##### **4.4 Investment**

Investment has been recorded at cost 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
Office Supplies	5-7	years
Vehicles	5	years
Aircraft	5-25	years
Assets from Donations	5-25	years

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

The developments of computer system in order to materially enhance and extend the capacity or efficiency are recognized as asset.

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 recorded wholly as an income or expense item in the Statements of Comprehensive Income and Expenditure.

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

The Company has signed the financial derivatives, including Interest Rate Swap Agreement (IRS) in order to hedge the risk on an accrual basis. The difference of interest payments will be recorded as other incomes or other operating expenditures in the Statements of Comprehensive 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 Member Airlines according to their number of flight units and revenue generated for that particular period.

#### **4.12 Employee Benefit Obligations**

Employee benefits in respect of defined benefit plans and other long-term employee benefits recognized in the financial statements are based on calculations by using actuarial valuation method to projected unit credit and using market yields on high quality corporate 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

Unit: Million Baht

	Consolidated Financial Statements		Separate Financial Statements	
	2016	2015	2016	2015
Cash in Hand	4.13	3.54	1.83	1.25
Cash at Bank	2,656.94	3,947.24	2,582.70	3,886.97
Total	2,661.07	3,950.78	2,584.53	3,888.22

### 5.2 Temporary Investment

Unit: Million Baht

	Consolidated Financial Statements		Separate Financial Statements	
	2016	2015	2016	2015
Fixed Deposit Account-6 months	1,758.81	0.54	1,758.26	-
Fixed Deposit Account-12 months	158.76	105.77	-	-
Total	1,917.57	106.31	1,758.26	-

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

Unit: Million Baht

	Consolidated Financial Statements		Separate Financial Statements	
	2016	2015	2016	2015
Receivables from ANS				
Receivable cheques	4.26	3.46	4.26	3.46
Airlines Debtors	1,169.56	1,234.27	1,169.56	1,234.27
Domestic Debtors	81.79	57.02	81.41	55.61
International Debtors	24.44	23.90	24.44	23.90
Accrued Income	2.74	1.51	2.74	1.51
	1,282.79	1,320.16	1,282.41	1,318.75
Less Allowance for doubtful accounts	(227.72)	(207.70)	(227.72)	(207.70)
Total Receivables from ANS -Net	1,055.07	1,112.46	1,054.69	1,111.05
Other receivables				
Interest Receivable	8.86	5.21	8.70	5.03
Penalty to contractors	58.26	138.05	58.26	138.05
Loans to staff	0.18	0.25	0.18	0.25
Prepaid Expenses	46.11	41.03	46.11	41.03

Advances to staff for expenses	22.52	28.31	5.59	11.58
Total other receivables	135.93	212.85	118.84	195.94
Total Receivables from ANS and other receivables	1,191.00	1,325.31	1,173.53	1,306.99

Penalty to contractors as at 30 September 2016 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 last installment of Baht 40 million to this supplier, after deducting with the penalty charge, then the supplier has an outstanding debt of Baht 27.36 million. This case is still in 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	
	2016	2015
Spare parts for Radar	101.54	113.86
Spare parts for Aircraft	25.43	20.74
Spare parts for Radio Equipment	2.05	8.65
Office supplies	3.41	4.22
Other spare parts	0.78	0.77
Total	133.21	148.24

#### 5.5 Other Current Assets

Unit: Million Baht

	Separate Financial Statements	
	2016	2015
Deposit Payments	4.65	4.58
Work in Process	0.53	3.30
Suspense accounts	(0.66)	0.27
Total	4.52	8.15



## 5.6 Other long-term investments

	Unit: Million Baht			
	Consolidated		Separate	
	Financial Statements		Financial Statements	
	2016	2015	2016	2015
Vayupak Fund 1	10.00	10.00	10.00	10.00
Fixed Deposit Account-36 months	0.10	0.10	-	-
Fixed Deposit Account-15 months	-	38.00	-	-
Total	10.10	48.10	10.00	10.00

## 5.7 Buildings and Equipment

	Unit: Million Baht									
	Original Cost				Accumulated Depreciation				Book Value	
	Balance			Balance	Balance			Balance		
	1 Oct 15	Increase	Decrease	30 Sept 16	1 Oct 15	Increase	Decrease	30 Sept 16		
The Company's buildings and equipment										
Buildings and Construction	2,831.31	104.27	-	2,935.58	1,598.00	121.51	-	1,719.51	1,216.07	1,233.31
Utility Systems	1,248.69	113.02	4.89	1,356.82	672.34	87.34	4.70	754.98	601.84	576.35
Radar and Communication Equipment <sup>1/</sup>	5,581.73	756.13	23.67	6,314.19	4,106.96	384.16	22.43	4,468.69	1,845.50	1,474.77
Power Generators	334.73	44.02	-	378.75	195.54	19.10	-	214.64	164.11	139.19
Teleprinters	0.06	-	-	0.06	0.06	-	-	0.06	-	-
Equipment and Tools	1,113.47	98.16	3.11	1,208.52	712.79	78.17	3.11	787.85	420.67	400.68
Office Supplies (including computer systems and equipment)	981.46	85.91	34.18	1,033.19	713.74	82.97	33.74	762.97	270.22	267.72
Vehicles	3.52	-	-	3.52	2.07	0.32	-	2.39	1.13	1.45
Aircraft	491.42	330.52	-	821.94	111.93	26.26	-	138.19	683.75	379.49
Assets from Donations	113.96	0.31	0.24	114.03	110.40	1.01	0.14	111.27	2.76	3.56
Total	12,700.35	1,532.34 <sup>2/</sup>	66.09	14,166.60	8,223.83	800.84	64.12	8,960.55	5,206.05	4,476.52
Staff Welfare Fund's equipment										
Musical Instruments and Sports Equipment	3.19	0.08	-	3.27	2.49	0.13	-	2.62	0.65	0.70
Grand Total	12,703.54	1,532.42	66.09	14,169.87	8,226.32	800.97	64.12	8,963.17	5,206.70	4,477.22

Notes: <sup>1/</sup> 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 1,531.76 million, an additional acquisition of equipment at the amount of Baht 0.27 million and assets from donations at the amount of Baht 0.31 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 Statements	
	2016	2015
Computer Software as at 1 October 2015	21.84	6.14
<u>Add</u> Additional during the year	33.35 <sup>1/</sup>	15.70
	55.19	21.84
<u>Less</u> Accumulated Amortization	(12.01)	(4.87)
Total Computer Software as at 30 September 2016	43.18	16.97
Amortization – This year	7.14	3.32
<sup>1/</sup> the transfer of assets under construction		

## 5.9 Assets under Construction

Unit: Million Baht

	Separate Financial Statements	
	2016	2015
Balance brought forward as at 1 October 2015	1,989.52	1,073.92
<u>Add</u> Additional during the year	1,780.88	2,054.11
	3,770.40	3,128.03
<u>Less</u> Transfer to Buildings and Equipment	(1,531.76)	(1,121.08)
Transfer to Intangible Assets	(33.35)	(15.61)
Transfer to Expenses	(5.99)	(1.82)
Balance carried forward as at 30 September 2016	2,199.30	1,989.52

### 5.10 Trade and Other Payables

Unit: Million Baht

	Consolidated Financial Statements		Separate Financial Statements	
	2016	2015	2016	2015
Trade Payable				
Trade Payable -Domestic	123.18	125.69	123.18	125.69
Trade Payable -Overseas	3.84	9.60	3.84	9.60
Suspense Account for Goods and Services	252.28	952.31	252.28	952.31
Total Trade Payable	379.30	1,087.60	379.30	1,087.60
Other Payables				
Suspense Account for Pay Cheques	771.65	97.89	763.11	85.41
Suspense Account for Debtors	52.10	62.74	52.10	62.74
Staff Payable	8.56	12.62	8.56	12.62
Deferred Income	8.46	10.26	8.46	10.26
Total Other Payables	840.77	183.51	832.23	171.03
Total	1,220.07	1,271.11	1,211.53	1,258.63

### 5.11 Current portion of Long-term Liabilities due in One Year (Separate Financial Statements)

Unit: Million Baht

	Bank						
	Krung Thai		Siam Commercial	Government Savings		Krungsri	Total
Credit Limit	1,390.28	1,100.00	1,519.55	1,650.00	1,200.00	2,075.43	
Balance brought forward as at 1 Oct 15	116.00	84.80	131.80	126.94	100.00	-	559.54
Add Transferred from long-term loans	116.00	84.80	65.90	126.94	100.00	415.09	908.73
	232.00	169.60	197.70	253.88	200.00	415.09	1,468.27
Less Payments during the period	(232.00)	(169.60)	(197.70)	(126.94)	(200.00)	-	(926.24)
Balance carried forward as at 30 Sept 16	-	-	-	126.94	-	415.09	542.03

## 5.12 Accrued Expenses

	Unit: Million Baht			
	Consolidated		Separate	
	Financial Statements		Financial Statements	
	2016	2015	2016	2015
Special Annual Rewards	-	933.62	-	933.62
Ratchaphatsadu Land Lease and Property Tax	51.15	51.11	51.15	51.11
Utilities	27.90	26.32	27.90	26.32
Others	18.92	15.11	15.12	11.93
Total	97.97	1,026.16	94.17	1,022.98

## 5.13 Accumulated Overcollection

	Unit: Million Baht	
	Separate	
	Financial Statements	
	2016	2015
Overcollection to Member Airlines - brought forward as at 1 Oct 15	3,867.02	2,299.28
<u>Add</u> Overcollection to Member Airlines during the year	2,362.87	1,909.41
Collection of Under-Recovery from Member Airlines (whose membership was terminated)	0.05	-
	6,229.94	4,208.69
<u>Less</u> Rebate Overcollection in 2015 to Member Airlines during the year	(380.65)	(341.67)
Balance carried forward as at 30 Sept 2016	5,849.29	3,867.02

The Company's Shareholders at the 69th Ordinary General Meeting on 27 January 2016 approved that the Company rebate 20% of the fiscal year 2015 overcollection to Member Airlines in form of credit notes to deduct Air Navigation Service charges within the fiscal year 2016 (April – September 2016). The remaining 80% of overcollection will be carried forward for investment in 2016.

In 2016, the Company had Baht 11,638.93 million total income and Baht 9,276.06 million total expenditure resulting in an income-over-expenditure (overcollection) at Baht 2,362.87 million. When combined overcollection of the year 2016 with the accumulated overcollection brought forward from 2015 of Baht 3,867.02 million, and the under-recovery from Member Airlines whose membership was terminated of Baht 0.05 million and the overcollection rebate to Member Airlines

of Baht 380.65 million, leaving the accumulated overcollection of Baht 5,849.29 million at the end of the fiscal year 2016.

In addition, income derived from telecommunication business under telecommunication license type 2 for the operator with its own network, which is amounted to Baht 74.75 million during 1 October 2015 – 30 September 2016 has already been included in Equipment Rental & Maintenance and AOC income.

#### 5.14 Other Current Liabilities

	Unit: Million Baht			
	Consolidated		Separate	
	Financial Statements		Financial Statements	
	2016	2015	2016	2015
Unearned Income	2.76	3.56	2.76	3.56
Accrued Income Tax and Tax Payable	305.97	56.27	305.80	56.03
Guarantee Money	70.95	49.72	70.81	49.60
Suspense Account for B Shares allocation	2.46	3.09	2.46	3.09
Suspense Account for Reimbursement	12.62	0.05	12.62	0.05
Total	394.76	112.69	394.45	112.33

#### 5.15 Long - Term Loans (Separate Financial Statements)

Bank	Contract Date	Credit Limit	Duration	Unit: Million Baht			
				Transferred to loans due within 1 year	Payment during the period	Balance as at 30 Sept. 2016	Balance as at 30 Sept. 2015
Krung Thai Siam Commercial	15 Jan. 04	1,390.28	15 Y., Grace Period 3 Y.	116.00	230.28	-	346.28
	15 Jul. 05	1,519.55	14 Y., Grace Period 2 Y.	65.90	333.35	-	399.25
Krung Thai Government Savings	25 Aug. 06	1,100.00	15 Y., Grace Period 2 Y.	84.80	379.20	-	464.00
	3 Sept. 07	1,650.00	15 Y., Grace Period 2 Y.	126.94	-	697.95	824.89
Government Savings	18 Sept. 09	1,200.00	14 Y., Grace Period 2 Y.	100.00	700.00	-	800.00
Government Savings	23 Sept. 13	3,480.00	15 Y., Grace Period 3 Y.	-	-	1.00	1.00
Krungsri	28 Apr. 16	2,075.43	5 Y.	415.09	-	1,660.34	-
Total		<u>12,415.26</u>		<u>908.73</u>	<u>1,642.83</u>	<u>2,359.29</u>	<u>2,835.42</u>

As at 30 September 2016, the Company has total credit limit at Baht 12,415.26 million. The Company managed long-term loans by refinancing 4 credit

### 5.18 Share Capital (Separate Financial Statements)

	Unit: Million Baht	
	2016	2015
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	<u>660.00</u>	<u>660.00</u>

### 5.19 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 13 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 20 September 2005.

### 5.20 Other income (Separate Financial Statements)

	Unit: Million Baht	
	2016	2015
Interest received	36.06	51.27
Gains on foreign exchange transactions	-	16.06
Dividend received	0.13	0.02
Other income	22.46	166.08
Total other income	<u>58.65</u>	<u>233.43</u>

### 5.21 Employee Benefit Expenses

	Unit: Million Baht			
	Consolidated		Separate	
	Financial Statements		Financial Statements	
	2016	2015	2016	2015
Staff Costs	5,711.83	5,236.31	5,711.83	5,236.31
Employee Benefit Expenses	550.83	612.04	550.83	612.04
Contribution to Provident Fund	414.47	378.78	414.47	378.78
Contribution to Staff Welfare Fund	-	-	264.01	242.84
Total	<u>6,677.13</u>	<u>6,227.13</u>	<u>6,941.14</u>	<u>6,469.97</u>

## 5.22 Other Expenses (Separate Financial Statements)

Unit: Million Baht		
	2016	2015
Audit Fee	1.64	1.48
Meeting Expense	23.17	17.75
Consultant and service fees	12.47	12.31
Public Relations Expense	22.60	22.09
Donations	19.01	19.32
Travelling Expense	198.67	180.75
Premium Fees	42.94	44.19
Other Fees	13.10	7.71
Training Expense	100.25	69.77
Store Supplies and Assets Retirement Expense	54.25	91.13
Securities Expense	44.31	41.99
Loss on Fixed Assets Retirement	1.98	1.89
Loss on Interest Rate Swap Agreement	-	0.12
Loss on Foreign Exchange rate	4.49	-
Doubtful Accounts	20.02	86.09
Bad Debts	1.86	1.48
Others	60.41	86.66
Total	621.17	684.73

## 5.23 Welfare Fund Expenses (Consolidated Financial Statements)

Unit: Million Baht		
	2016	2015
Staff Welfare Expenses	253.92	231.35
Others	0.44	0.59
Total	254.36	231.94

## 5.24 Provident Fund

On 1 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 at 30 September 2016 there were 2,961 staff members. The Company made a contribution in this period at Baht 416.18 million to the Provident Fund, (which was recorded as staff costs at Baht 414.47 million and cost of production of work order at Baht 1.71 million).

#### **5.25 Remuneration for Committees**

In accounting period of 2016, the Company paid remuneration to committees as follows:

	Baht
1. Monthly Remuneration to State Enterprise Committee	1,137,419.94
2. Board of Directors	975,000.00
3. Executive Committee	360,000.00
4. Audit Committee	390,000.00
5. Risk Management Committee	367,500.00
6. Remuneration Committee	97,500.00
7. Legal Committee	232,500.00
8. Corporate Governance and Social Responsibility Committee	680,000.00

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

#### **5.26 Transactions between the Company and Welfare fund**

In accounting period of 2016, the Company received income and contributed to welfare fund at net amount of Baht 264.01 million.

#### **5.27 Contingent Liabilities**

The Company was brought to the Civil Court as defendant in labour disputes with claimed amount of Baht 19.24 million.