

Air Navigation & Weather Services

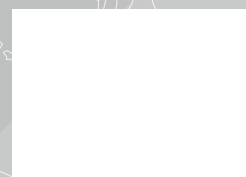
CAA, MOTC

2011 Annual Report

Air Navigation and Weather Services
A proud provider of air traffic services
in Asia-pacific!



Air Navigation & Weather Services,
Civil Aeronautics Administration,
Ministry of Transportation and Communications, R.O.C.
<http://www.anws.gov.tw>



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Air Navigation & Weather Services 2011 Annual Report

Civil Aeronautics Administration





Air Navigation and Weather Services 2011 Annual Report

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Air Navigation & Weather Services

2011 Annual Report

CAA, MOTC



Goals »

*Safety – Integration, Efficiency – Innovation,
Satisfaction – Sensation*

Visions »

*World-class Flight Safety and
First-class Air Traffic Service*



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Words from the Director >>

2011 was Taiwan's centennial year. Adding to this cheerful atmosphere, Air Navigation and Weather Services handed-in a spectacular report card, in which, the 4.4 billion-dollar, Taipei Flight Information Region Communications, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Development and Implementation Plan was accomplished on December 31. Inauguration of the New Air Traffic Management System, the most important part of the project, took place on October 5 at North Air Traffic Services Park and officially signified a milestone in ATS development!

Air Traffic Management System (ATMS) Implementation Sub-Plan of The Taipei Flight Information Region (FIR) CNS/ATM Development and Implementation Plan led to the construction of North and South ATS Parks, which integrated certain air traffic services units, readjusted the air space and reduced the number of interfaces between management units. These achievements improved the quality and effectiveness of ATM operation, as well as the integrative use of available human resources. While realizing this plan, the most difficult step was to replace the old air traffic management

system with the new one. In order to accomplish the seamless 6-stage transfer process in 3 months, all of the ATC, engineering and administrative personnel were facilitated in not only maintaining consistent ATC services but also preparing for the system transfer upgrading. It was a severe trial on professionalism and physical endurance. Thanks to the support and cooperation of the relevant units, and the around-the-clock efforts of our colleagues, the transfer was successfully completed on schedule. We hereby express our most sincere gratitude to all of them.

Aside from the transfer, ANWS displayed remarkable performance and improvements in other areas during the year 2011. For example: establishing Air Traffic Services Safety Management System, encouraging cross-strait exchanges of air traffic services personnel, continuous ATC actions for energy conservation and low CO₂ emission, activating the AES, completing Flights and Charges System, implementing Technical Enhancements

for the Advanced Operational Aviation Weather System, replacing navigation facilities, processing personnel training and evaluations, conducting emergency response drills, improving Citizen-Service, constructing North and South ATS Parks, perfecting property management, etc.

In order to remain updated with international standards, ANWS endeavored to join the Civil Air Navigation Services Organization (CANSO) since 2010. ANWS officially became a member of the organization on January 1, 2011 and participated in 3 of the task groups under the organization. In the Asian Pacific ANSP Conference, ANWS introduced administrative structure, presented an overview of CNS/ATM Development and Implementation plan to the international community. It is considered that ANWS of Taiwan took a giant leap onto the world stage.

Through successful development of the CNS/ATM plan, air traffic services of Taiwan ushered in a new era. It also showed that the professional capabilities and cooperative efforts of all personnel of ANWS had withstood hardships. In the future, ANWS will persevere in providing customers

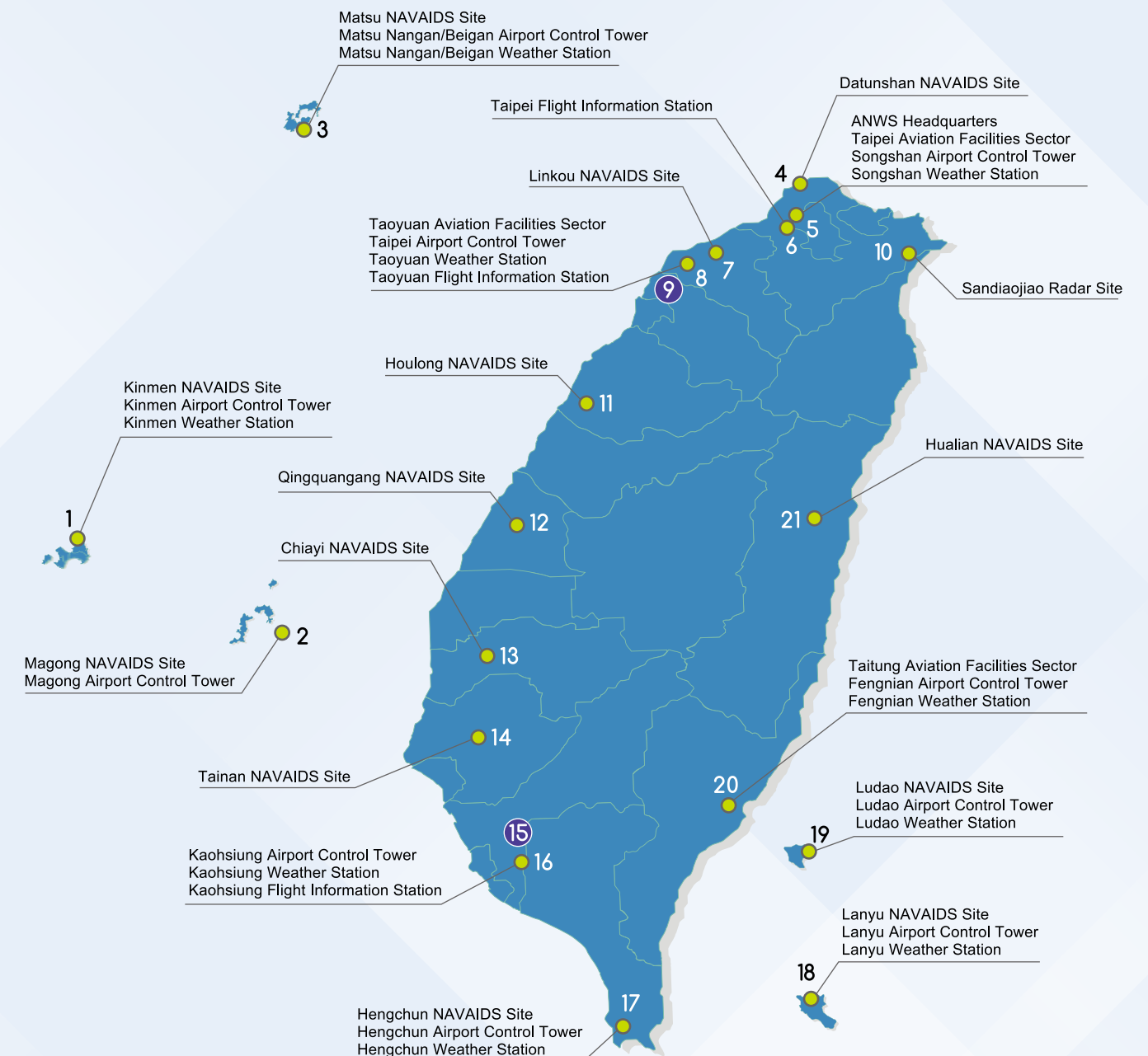
with integrated, innovative and satisfactory services, to further elevate the standard of air traffic services of our country.

Air Navigation & Weather
Services, CAA, MOTC Director

Jean Shen



I. Organization >>



9 North Air Traffic Services Park

Taipei Area Control Center, Taipei Approach Control Tower, Taipei Aeronautical Meteorological Center, Taipei Flight Information Center, Taipei Aeronautical Telecommunication Center, Information Management Center, Secretariat General Affairs Section, Air Traffic Service Management Office ATM System Operation Section.

15 South Air Traffic Services Park

Kaohsiung Aviation Facilities Sector, Kaohsiung Approach Control Tower.

II. Responsibilities »



ANWS is charged with the following responsibilities:

1. Collecting, arranging, editing domestic/international flight information, and publishing of NOTAM, as well as providing flight inquiry services.
2. ATM and verification of inbound/outbound aircrafts within Taipei FIR.
3. Transmission services of aircraft status and domestic/international aeronautical telecommunication.
4. Collecting and processing domestic/international aeronautical meteorological data, providing services such as aeronautical meteorological observations, forecasts and watches.
5. Planning, designing, managing, monitoring, maintaining, researching and improving ATS.
6. Planning, researching and developing in Flight Information, ATC, Aeronautical Telecommunication and Aeronautical Meteorology.
7. Setup, improvement plan and related technical-information research of ATS equipment.
8. Registration, transportation, storage, distribution, supply, procurement and management of ATS equipment.
9. Other ATS related issues.

III. Director, Deputy Directors and Chiefs »

- | | |
|---|--|
| 1. Director ————— Jean Shen | 8. Taipei Area Control Center Chief ——— Bernard Fong |
| 2. Deputy Director ————— Chien, Yuen-Ling | 9. Kaohsiung Approach Control Tower Deputy Chief ——— Shieh, Bi-Yueh |
| 3. Deputy Director ————— Chen, Fu-Shou | 10. Taitung Approach Control Tower Chief ————— Tsai, Tsung-Ying |
| 4. Deputy Director ————— Huang, Li-Chun | 11. Engineering Office Chief ————— Chang, Hua-En |
| 5. Senior Technical Specialist ——— Charlie Chi | 12. Taipei Aviation Facilities Sector Chief ————— Jone Keng |
| 6. Air Traffic Service Management Office Chief ——— Lin, Tsung-Foo | 13. Taoyuan Aviation Facilities Sector Chief ————— Chen, Tsung-Chuan |
| 7. Taipei Approach Control Tower Chief ————— Tseng, Chiung-Huey | |



- | | |
|--|--|
| 14. Kaohsiung Aviation Facilities Sector Chief ————— Lin, Yor-Kin | 19. Taipei Flight Information Center Chief ——— Liu, Hua-Shih |
| 15. Taitung Aviation Facilities Sector Chief ————— Lin, Tien-Mai | 20. Secretariat Chief ————— Gau, Bing-Shong |
| 16. Information Management Center Chief ————— Lin, Chia-Ming | 21. Civil Service Ethics Office Chief ——— Lin, Liow-Shan |
| 17. Taipei Aeronautical Telecommunication Center Chief ——— Jack Wang | 22. Personnel Office Chief ————— Chen, Shu-Lan |
| 18. Taipei Aeronautical Meteorological Center Chief ——— Tung, Mao-Shiang | 23. Accounting Office Chief ————— Jou, Yi-Ching |
| | 24. Logistics Office Chief ————— Chen, Jen-Min |



IV. Major Achievements »



Taipei Songshan Airport LLZ

1. Affiliation in Civil Air Navigation Services Organization (CANSO)

ANWS officially became a member of CANSO on January 1, 2011 and participated in 3 task groups under the organization: ICAO Engagement, Human Resources and ANS Procurement. From June 8 to 11, 2011, Director Jean Shen delegated a team to attend the CANSO Asia-Pacific ATM Safety Seminar and ANSP Conference in Bangkok with a presentation: An Introduction to ANWS, to explain the establishment of CNS/ATM systems; the presentation received an enthusiastic response from representatives of the Asia-Pacific regions.



2. Completion of Taipei Flight Information Region Communication, Navigation, Surveillance and Air Traffic Management (CNS/ATM) Development and Implementation Plan

Covering a period of 10 years (2002~2011), totaling 4.4 billion NTD, the CNS/ATM plan, including the Aviation Communication System Implementation Sub-Plan, Global Navigation Satellite System Augmentation Sub-Plan, Surveillance System Implementation Sub-Plan and Air Traffic Management System Implementation Sub-Plan was completed in 2011, significantly improving the air traffic services and representing a milestone in the civil aviation history of Taiwan, setting the foundation for air traffic services of Taiwan ahead of others in the Asia-Pacific region.

• Budget

Total Budget and Implementation of CNS/ATM Plan

Unit: NT1,000

Year	Budget		Budget Implementation		
	Annual Budget	Surplus of Previous Year	Actual Expenses	Surplus for Next Year	Balance
2002	20,000	0	1,644	0	18,356
2003	160,099	0	78,087	75,669	6,343
2004	185,114	75,669	123,081	120,979	16,723
2005	683,246	120,979	319,916	482,392	1,917
2006	1,156,723	482,392	1,029,084	599,207	10,824
2007	220,766	599,207	783,066	36,907	0
2008	153,153	36,907	183,579	0	6,481
2009	585,200	0	573,497	0	11,703
2010	842,335	0	814,648	27,687	0
2011	395,382	27,687	385,299	0	37,770
Total	4,402,018	0	4,291,901	0	110,117
Percentage	100%		97.5%	0%	2.5%

• Contents

a. Aviation Communication System Implementation Sub-Plan

This sub-plan implements the latest communication technologies which utilize an integrated digital Voice and Data Link communication systems to replace the traditional voice communication system. It also exchanges digital aviation and ATC messages supplemented by voice communications, to help avoid the delays caused by radio frequency congestion. The Data Link systems ensures that aviation messages are received, processed, and

transmitted instantly, correctly and completely, in order to reduce the risk of message breakdowns. The main facilities in this sub-system include Aeronautical Telecommunication Network (ATN), ATS Message Handling System (AMHS), Voice/Data link VOLMET (D-VOLMET) and Automatic Terminal Information Service (D-ATIS).

b. Global Navigation Satellite System (GNSS) Augmentation Sub-Plan

To cope with developing global satellite navigation technology, Taiwan joined the GNSS Implementation Team (GIT) with other organizations within the Asia-Pacific Economic Cooperation (APEC) to promote the GNSS Testbed (GTB) project. The GIT promotes developing technologies for related GNSS systems, and with respect to Taiwan, evaluates the feasibilities and benefits of the Satellite-Based Augmentation System (SBAS) of the Taipei FIR, which might augment or replace the traditional ground-based navigation infrastructure with systems based on Global Positioning System (GPS). The GTB also offers satellite-based aeronautical services such as enroute navigation signals for aircraft.

c. Surveillance System Implementation Sub-Plan

ADS-B implemented by the sub-plan enables the aircraft to transmit its detailed position information to ground station, utilizing satellite positioning technology to make up the insufficient coverage of the radar surveillance and increase flight safety and efficiency within Taipei FIR.

d. Air Traffic Management System (ATMS) Implementation Sub-Plan

The new generation ATMS integrates the system interfaces of all the sub-plans. With the construction of the North and South ATS Parks within Taoyuan Airport Industrial Park and Kaohsiung International Airport respectively, current ATS units have been consolidated to operate in a centralized way. This also required the restructuring of the en-route airspace according to the requirements of the entire ATS, which decreased the coordination between ATC units and allowed ATC units to perform ATC operations with a fast and efficient manner.

The new ATMS includes three main functions: Air Traffic Control (ATC), Air Traffic Flow Management (ATFM) and Airspace Management (ASM). It also implements

the new generation Digital Voice Communication Switching System (DVCSS) with backup and network voice exchange capabilities between North and South ATS Parks and an Aeronautical Information Services System (AISS), which integrates diversified information, such as aeronautical meteorology and flight information, through the internet. The AISS offers advanced telecommunication services between ATC units and the pilots. Airline staffs could acquire the latest flight information through the internet and send out flight plans without filing at the counter to improve service quality and efficiency of the ATS.

To ensure the regular and 24-hour operation of the ATC systems, this sub-plan also implements the Independent Backup ATC System (IBAS) to be the backup of the new ATM system.

3. Inauguration Ceremony of New Air Traffic Management Automation System

On October 5, 2011, the New Air Traffic Control Automation System Inauguration Ceremony was held at North ATS Park; meanwhile, MOTC Minister Mao, Chi-Kuo, MOTC Political Deputy Minister Yeh, Kuang-Shih, CAA Director General Yin, Chen-Peng, ANWS Director Jean Shen, and Taoyuan County Deputy Major Huang, Hong-Bin, initiated the system together. About 200 participants of the federal/district offices, local representatives, civil aeronautics industry, academic institutions, the press, CAA and retired officials from the ANWS witnessed this historic moment at the ceremony.



4. Establish Air Traffic Service Safety Management System of ANWS



In order to realize the ATMS safety management project and consolidate the Safety Management System, ANWS promulgated the "ATMS Safety Management System Manual" in June 2011 and the "ATS Safety Review Officers Management Requirement" in the following November. In addition, a total of 9 participants passed the ATS Safety Management System training in 2011.

5. Air Traffic Control

a. Successful Transfer from ATCAS to New ATMAS

- In order to familiarize the colleagues with new ATMS, an ATC personnel strengthening training course was implemented. A total of 10 executive supervising batches (32 people), 17 radar batches (181 people) and 20 control tower batches (77 people) participated in the training. ATC Staff also completed operation simulation twice between transfers.
- To ensure seamless connection of old ATC Automation System (ATCAS) with the new version, 6 stages of parallel transfer were completed between April 6 and June 28, 2011.

Phase 1 (4/6 – 4/19)	<ul style="list-style-type: none"> Hualien Approach transferred to North ATS Park. Taitung Approach Control Tower transferred to South ATS Park.
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Phase 2 (4/20 – 5/3)	<ul style="list-style-type: none"> All units began simulation.
Phase 3 (5/4 – 5/17)	<ul style="list-style-type: none"> Taichung Approach transferred to North and South ATS Parks.
Phase 4 (5/18 – 5/31)	<ul style="list-style-type: none"> Kaohsiung Approach Control Tower transferred to South ATS Park.
Phase 5.6 (6/15 – 6/28)	<ul style="list-style-type: none"> Taipei Area Control Center and Taipei Approach Control Tower transferred to North ATS Park.

b. Inter-Exchanges activities Between ATC Personnel and Airlines

ANWS attended Member Units Aviation Safety Coordination Conference, 19th Annual Domestic Aviation Safety Conference and Asia Pacific Conference, International Aviation Safety Seminar and Pilot and Controller Seminar on February 10, March 31, June 8, August 25, November 7 and December 7 in 2011 to communicate relevant information and improve operations of aviation safety with airlines and pilots.

c. Conference on Specialized ATC Energy Conservation and Low CO2 Emission

ANWS hosted the conference on February 17, August 18 and October 20 in 2011, respectively, at Taipei Songshan Airport, TransAsia Airways and North ATS Park, with participants from 6 domestic airlines, CAA, Taiwan Taoyuan Int'l Airport Company and ANWS. The participants discussed and drafted policies related to lower carbon emissions, continuous provision of in-flight service and quality, and realization of sustainable development. The conference also reached agreements concerning aircraft departure accelerating procedures for Taiwan Taoyuan Int'l Airport and Taipei Songshan Airport, single runway GATE HOLD procedures at Taiwan Taoyuan Int'l Airport, take-off priority at the runway and plans to reduce carbon emissions.

d. Cross-strait Exchanges

- ANWS participated in the 2011 Cross-strait Civil Aeronautic ATC Exchange Seminar hosted by Taipei Air Transport Industry Association at Taoyuan Novotel Hotel on July 5, 2011; meanwhile, ANWS produced a Cross-strait Direct Flights Review Video, looking back at significant dates since ATC units from both sides first exchanged information in November, 2008. Director Shen also made a speech on the topic of Footprints of Arranging Cross-strait Flights Service sharing experiences of the planning and negotiations before the initiation of direct cross-strait flights and the communications after that.
- ANWS dispatched personnel to draft related task arrangements for cross-strait flight services in Shanghai and Xiamen from September 19 to October 24, 2011.

e. Coordination and Communication with the Military

- ANWS assisted Taichung Chung-Shan Institute of Science & Technology on February 16, 2011 to review the scene concerning Taipei Songshan Airport for the Air Traffic Control Simulation Training System of the military, in order to simulate an operational setting closer to reality.
- In order to perform military maneuvers successfully, ANWS dispatched advisors to participate in 30 maneuver-related meetings such as Central Revolution Hero and Valiant Sacrifices Spring Memorial, Event Preparation Conference, Han-guan No. 27, opening of Hualian/Songshan/ Qingquangang/Gang-Shan military sites, etc.
- ANWS invited Department of Defense, Headquarters of Army/Navy/Air Force, Taichung Chung-shan Institute of Science & Technology, and Coast Guard Administration on November 8, 2011 to attend the Coordination Meeting of NOTAM Application Procedure for Live Ammunition War Game. This meeting focused on the NOTAM

application procedures of live ammunition war game and suggested improvement of efficient application by automatic process.

f. ANWS Staff Mental Health Service

ANWS outsourced specialized service institution for psychological and emotional counseling of ATS personnel, in order to reduce human errors. Aside from a complete record of a psychological survey from the 5 categories of personnel, ANWS also provided a total of 20.5 hours of counseling to 11 staff and held 2 seminars at North and South ATS Parks on October 7 and 11, 2011, respectively.

g. ANWS ATS Personnel Shifts and On-duty Fatigue Improvement Project

ANWS completed a sleep survey-analysis, and suggested shift-scheduling and working environment improvements of ATC personnel. Four lectures were held at Binjiang District, North and South ATS Parks on August 15, September 2, December 5 and December 15 in 2011, respectively.

6. Flight Information

a. Flight Information Service Conference

On June 17, 21, 23, July 26 and 27 in 2011, 5 sessions of Flight Information Service Conferences were scheduled at Taipei Songshan Airport, Taoyuan Airport, Kaohsiung Airport, Taichung Qingquangang Airport, Taitung Fengnian Airport, respectively. The participants included pilots, dispatchers, and the staffs from CAA, 13 airports and military units. At the conference, all the participants conducted exchanges and surveys were handed out as well. The results showed that 85% of the participants benefited from the information on Flight Information System functions.

b. Activation of Aeronautical E-Services

Aeronautical E-Services (AES) was initiated on July 1, 2011. It integrates Notices to Airmen (NOTAMs), Navigation Warning Chart, Flight Plan, Domestic

Repetitive Plan and Weather Data on one single website, improving the efficiency of task automation. Up to date, a total of 57 units and 408 members have registered for accounts.

7. Aeronautical Telecommunication

a. Completion of Flights and Charges System

In coordination with the installation of the Air Traffic Management System (ATMS), Flights and Charges System was initiated on April 28, 2011 to provide users with web services. Airlines can confirm bills, inquire about company data and check financial accounts with this webpage system, providing a convenient service platform.

b. Air Traffic Service Message Handling System (AMHS) User Agent Seminar

The AMHS User Agent seminar was held on September 14, 2011 at Taipei Songshan Airport to familiarize users with the UA interface and data report management in order to maintain the stable operation of the AMHS system, improve efficiency of usage and enhance communication with airlines.

8. Aeronautical Meteorology



a. Technical Enhancements for the Advanced Operational Aviation Weather System (2011 - 2014)

Major Achievements in 2011 are as follows:

- Added Kinmen Shangyi Airport AWOS data.
- Enhanced icing forecast products.
- Updated the Aeronautical Meteorological Service Page (AMSP) on July 1, 2011, adding a new "Aviation Weather Q & A" in Chinese and English.
- Provided users with aviation weather learning data such as Airport Weather and Low Level Wind Shear and Microburst.
- Completed sites survey of Low-Level Wind shear Alert System (LLWAS) detection device at Taiwan Taoyuan Int'l Airport and Taipei Songshan Airport.
- Replaced and evaluated a Low-Level Wind shear Alert System.



b. Weather Information Application and Forecast Technology Cooperation Agreement between CAA and Central Weather Bureau

Through this agreement, the Central Weather Bureau imports the Numerical Weather Prediction (NWP) information into the Advanced Operational Aviation Weather System (AOAWS) of ANWS. In 2011, additional cooperative agreements were made regarding topics such as new weather data exchanges, back-up system and replacement of transmission equipment.

c. Aviation Weather and Flight Safety Training

ANWS hosted Aviation Weather and Flight Safety Training at the CAA International Conference Hall on February 15, 2011, and invited experts and scholars to introduce related knowledge of the aviation weather and flight safety. Through the conference, ATS personnel obtained an in-depth understanding of flight safety influenced by unusual weather conditions, such as low visibility, low-level wind shear and thunderstorms. A total of 150 participants from the domestic aviation industry attended the conference.

d. Taipei Songshan Airport and Taiwan Taoyuan Int'l Airport Low-Level Wind Shear Alert System User Seminar

ANWS hosted User Seminar of Low-Level Wind Shear Alert System in Songshan Airport and Taoyuan Airport on April 26, 2011. A total of 63 participants from CAA, Aviation Safety Council, airlines and ANWS attended the seminar.

e. Cross-strait Aviation Weather Exchange Event

ANWS, in cooperation with Chinese Aeronautical Meteorological Association, hosted the Second Cross-strait Aviation Weather Operation Exchange in Taipei and Shanghai. Participants from both sides attended the events for forecast operation and technology exchange. ANWS, together with the Chinese Aeronautical Meteorological Association and airlines, participated in the Sixth Cross-strait Aviation Weather and Flight Safety Seminar held on September 5 and



6, 2011 in Sian, exchanging the aeronautical meteorological technology and establishing a direct effective communication with China.

f. Production of Aeronautical Meteorology Promotional Materials

In order to improve knowledge of ATS personnel about aviation weather and ANWS aviation weather system, the Advanced Operational Aviation Weather System Introduction was updated on July 1, 2011 and the Q&A on Low-Level Wind Shear and Microburst was drafted as well. This information was placed on the Aeronautical Meteorological Service Page to help the public develop a better understanding; it was also made into digital format on the "Knowledge and e-learning website for CAA" for all the colleagues.

h. Application Training for Aeronautical Meteorological Service Page

3 stages of Application Trainings in Aeronautical Meteorological Service Page were held on November 2, 9 and 11, 2011 in Taipei. A total of 71 participants, including pilots, dispatchers, controllers and flight information officers, participated in the training course. Through continuous user training and exchanges, the promotion of Aeronautical Meteorological Service Page application assisted ATS personnel to obtain the necessary information promptly on the website and improved aviation weather services.

i. The Implementation and Application of Neural Network Wind Analysis System for Aviation Aerodromes during Typhoon Invasion research project

This research project was completed on November 10, 2011. Using neural network analysis, the airport wind field forecast system was installed to provide weather forecaster with convenient, simple, accurate and effective data during typhoon invasion.

9. Aeronautical Electronics

- The connection interface between Taiwan Taoyuan Int'l Airport Surveillance Enhancement System and Air Traffic Management System was completed on June 14, 2011 to provide complete aviation information and assist air traffic control operation.
- The replacement of the 60KW diesel generator of the Ludao NAVAIDS site was completed on August 3, 2011 to ensure the availability of the emergency power of air navigation and RCAG telecommunication facilities.
- The Taiwan Taoyuan Int'l Airport 05L and 23R Cat IIIA runway Instrument Landing System replacement and upgrading project was completed on November 7, 2011. Once the runway lighting system is also completed, the visibility standard could reach 200 meters, significantly reducing the effect of fog season on airport operations.



Taiwan Taoyuan Int'l Airport 05L and 23R Cat IIIA runway Instrument Landing System

- The terminal ATC radar replacement of the Kaohsiung and Magong Airport was completed on November 14, 2011 to provide stable and reliable radar coverage signals in the Taipei FIR.
- The Digital Backbone Network System and Dedicated Supporting Network System Procurement of ANWS was completed on November 16, 2011, integrating signal transmission requirements for radar, radio control, telecommunication, air navigation facilities remote monitoring, etc, to significantly reduce the rental cost for dedicated lines.
- The Environment and Equipment Monitoring and Alert System Procurement of ANWS was completed on December 28, 2011, to establish an unmanned monitoring system and offer instant monitoring, safe shelter and automatic alerts.
- The replacement of the Matsu Beigan Airport Automatic Weather Observation System was completed on December 30, 2011, to improve the accuracy of airport weather observation and flight safety.



Kaohsiung Airport Terminal ATC Radar



Magong Airport Terminal ATC Radar

10. Personnel Training and Evaluations

a. Domestic Training Programs

- Air Traffic Control: 33 items, totaling 262 batches and 1651 participants.
- Flight Information: 3 items, totaling 16 batches and 51 participants.
- Aeronautical Meteorology: 10 items, totaling 23 batches and 275 participants.
- Aeronautical Telecommunication: 1 item, totaling 2 batches and 16 participants.
- Aeronautical Electronics: 9 items, totaling 56 batches and 478 participants.
- Administrative Personnel: 2 items, totaling 2 batches and 29 participants.

b. Overseas Training Programs

Training, advanced study, internship projects (including operation expenses and capital expenditure plans):

- Aeronautical Meteorology: 1 item, The Study of Advanced Operational Aviation Weather System Products processing technology for Web Pages, totaling 2 participants abroad.
- Aeronautical Electronics: 2 items (including The factory training for Taiwan Taoyuan International Airport Runway 06/24 ILS Replacement Project, etc.) , totaling 4 participants abroad.

Non training, advanced study, internship projects (including operation expenses and capital expenditure plans):

- Air Traffic control: 5 items (including Coordination of ATC operations with Naha Area Control Center, etc.), totaling 14 participants abroad.
- Aeronautical Meteorology: 2 items (including Technology Coordination Meeting of Aviation Meteorological Information, etc.), totaling 6 participants abroad.

c. Evaluations

In order to enhance ANWS personnel capabilities in Air Traffic Control, Flight Information, Aeronautical Meteorology, Aeronautical Telecommunication and Aeronautical Electronics, as well as to improve quality in air traffic services, ANWS completed 684 audits in ATC, 125 audits in Aeronautical Meteorology, 25 audits in Aeronautical Telecommunication, 54 audits in Flight Information and 189 audits in Aeronautical Electronics.

11. Emergency Response Drills

- Independent Backup ATC System Drills: 1 practice drill on January 20, 2011 and 1 simulation drill on December 12, 2011.
- ATC Continuation Drills: In order to maintain constant service, all ATC units continued to conduct operational drills of backup projects. A total of 106 participants attended the drill.
- Aeronautical Meteorological Personnel Emergency Response Drills: totaling 24 exercises and 195 participants.
- Aeronautical Telecommunication Personnel Emergency Response Drills: totaling 7 exercises and 18 participants.
- Flight Information Personnel Emergency Response Drills: totaling 26 exercises and 208 participants.
- Disaster Prevention and Response Drills for Navigation Facilities: In cooperation with activation of ATM system and to simulate malfunctioning of radar equipment in case of power outage during natural disasters, drills and communication procedures were conducted with a total of 13 participants at North ATS Park on November 4, 2011.
- ATS System Drills (ATMS, IBAS, AMHS, AISS, DVCSS and ASN) : totaling 8 exercises and 51 participants.
- Power Facility Practice Drills in North ATS Park: totaling 2 exercises and 20 participants.

12. Citizen-Service

a. Citizen-Service Assessment

In order to improve Citizen-Service and to cooperate with the CNS/ATM plan, ANWS proposed various innovative and integrative services, which received first place in Periodical Assessment of Citizen-Service Performance from CAA, for the year 2011.

b. Service Satisfaction Survey

The 2011 contracted Service Satisfaction Survey added a new foreign pilot interview portion in order to increase surveyed categories. A total of 250 surveys and 30 in-depth interviews showed that pilots' satisfaction level for overall service increased from an average of 67.3% in 2010 to 75.7% in 2011, with an increase rate of 12.5%. Dispatcher satisfaction level for overall service increased from an average of 78.4% in 2010 to 82.9% in 2011, showing an increase rate of 5.7%. In regard to the interview portion, survey candidates were content with the ANWS service attitude, and appreciated that their suggestions had received appropriate improvements.

c. Procurement Integrity Survey

The 2011 contracted Procurement Integrity Survey, sampled 213 contractors, completing a total of 123 surveys. The results showed that most contractors didn't encounter unnecessary difficulty in working with the procurement personnel. However, procurement personnel will continue attending legal seminars to avoid inappropriate or illegal procurement procedures. Contractors will also be informed of means to appeal inappropriate procurement activities. 92.68% of the contractors expressed satisfaction with service attitudes from the procurement personnel of ANWS.

d. Exhibits of ANWS Art Gallery

- 2011 Binjiang District Art Gallery exhibited 40 art works of 4 artists.
- The North ATS Park Art Gallery was officially completed on October 2, 2011 and exhibited 41 art works of 3 artists.



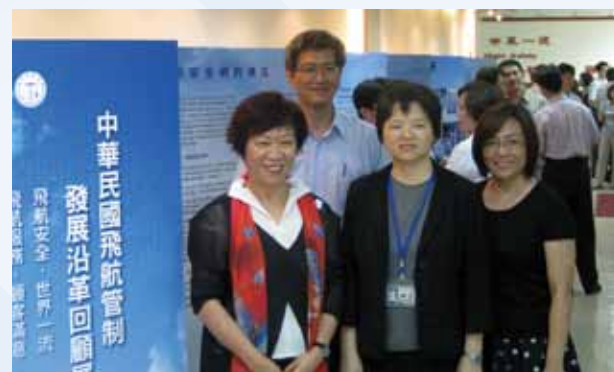
North ATS Park Exhibits of ANWS Art Gallery



e. Taiwan Air Traffic Control Historic Development Exhibition

To celebrate the centennial of Taiwan and to provide the public with a better understanding of ANWS, the Binjiang District, North and South ATS Parks separately hosted Taiwan Air Traffic Control Development Review Exhibition, with contents covering: History of Aviation Safety Network in Air traffic services, Activating New Era of Air traffic services, Air Traffic Control History, Air Traffic Control Development Calendar, etc.

All related exhibitions were placed on the website of ANWS for browsing and downloading. The public may easily access these files, thereby enhancing archive value and impressions of ANWS.



f. Visiting Service

ANWS received 75 groups of aviation industry with 1,465 visitors (including 7 groups of ICAO members from abroad with 171 visitors) and 68 groups of domestic airlines/schools with 1,294 visitors in the year 2011. The service helps the public to understand the tasks carried out by ANWS, enhancing coordination between different units.

g. Provision of Aviation Weather Information

ANWS processed 84 requests of airport weather information from the government sector and non-governmental establishments for the purposes of research, damaged air-cargo investigations, flight safety-related events investigations, ILS procedure planning and reference for airport constructions.



13. New and Improvement Construction Project

- Binjiang District Off-duty Dormitory Renovation was completed on May 9, 2011.
- North ATS Park All-weather Corridor Construction was completed on August 18, 2011.
- North ATS Park Restaurant Renovation was completed on August 25, 2011.



North ATS Park Restaurant Renovation



North ATS Park Garage and Entrance Improvement Construction



- Entrance Improvement and installation of ANWS landmark of North ATS Park Garage and Entrance Improvement Construction was completed on September 25, 2011.
- The North ATS Park Environment Enhancement Construction was completed on September 30, 2011.
- The Magong Terminal Air Traffic Control Radar Engine Room and Operation Room Construction was completed on October 16, 2011.
- The North ATS Park Wall Barbwire Installation Construction was completed on December 12, 2011.
- The North ATS Park Tablet Wall Construction was completed on December 25, 2011.

14. Property Management Performance

- "Assisting Real Estate Management Using OpenGis and free Software" received MOTC Innovative Policy Management Category A Award, on January 10, 2011.
- Account Applications for CNS/ATM Real Estate in North and South ATS Parks.
- Selling of expired South Control Tower, radar, Assist Navigation and electrical/mechanical parts, and clearing the facility site.
- Assisting in transferring properties in the Pingtung Airport to military ownership and providing a property check list.
- Assisting in phase 2 of CAA operations fund asset pricing investment for Taiwan Taoyuan International Airport Corporation, ANWS processed fund reduction of asset and equipment totaling 174,703,742 NTD.

15. Administrative Directions

• Revised

0302	Implementation Directions for Sector Evaluation of ATC
0323	Processing Procedures for ATC Incidents
0427	Implementation Directions for ATC Licenses Management
0504	Implementation Directions for ATC Strengthen Training
0506	Set-up and Operation Directions for ATC Incidents Investigation Team
0510	Processing Procedures of Violation Rules for ATC Incidents
0609	Operation Directions for Selecting, Training and Evaluating ATC Supervisors
0617	Application Processing Procedures of Medical Waiver for ATC
0621	Reporting Procedures and Processing Directions of Safety Devices for Emergencies
0624	Reporting and Operation Procedures for ATC Units in case of Violation Incidents

0706	Aviation Security Program
0718	ATC Personnel Reinstatement Application
0830	Navigation Aid Facility Failure Reporting Procedures for the responsible Aeronautical Electronics Unit
0830	Navigation Aid Facility Failure Reporting Procedures
1020	Real Estate Management Directions
1101	ATC Training Officer Evaluation Directions
1111	Off-duty Facility Management and Fee Supplementary Directions
1123	Flood Disaster Prevention and Rescue Plan
1123	Emergency Response Procedures for Handling Flood Disasters
1123	Earthquake Disaster Prevention and Rescue Plan
1123	Emergency Response Procedures for Handling Earthquake Disasters

1123	Navigation Aid Facilities Disaster Prevention and Rescue Plan
1123	Emergency Response Procedures for Handling Navigation Aid Facilities Disasters
1123	Typhoon Disaster Prevention and Rescue Plan
1123	Emergency Response Procedures for Handling Typhoon Emergency Disasters
1123	Emergency Response Plan and Procedures for Handling of Information and Communication Safety Incidents
1215	Operation Directions of Selecting and Examining ATC Coordinators

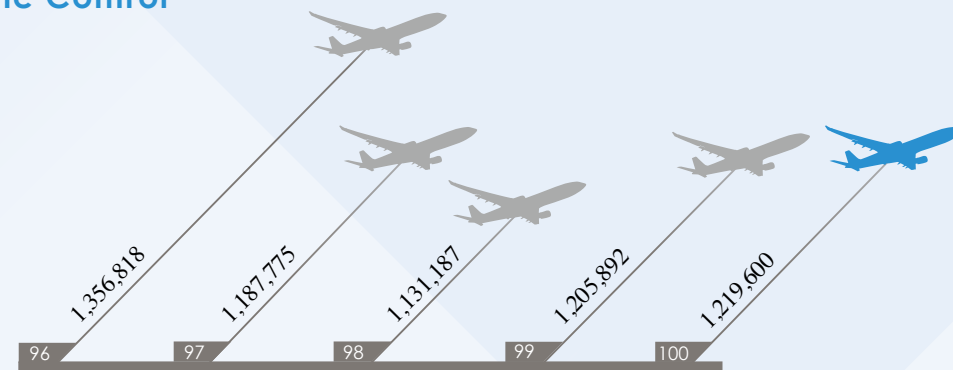
• Promulgation

0323	Implementation Directions for ATC On-the-Job Training Progress Evaluation
0328	Document Processing Management Directions
0505	No-Show Processing Directions for ATC in Shifts
0530	Application Directions of Written and Practical Examination for ATC
0603	Operation Procedures for Public Appeal and Confidentiality Mailing Detail Confidentiality of the Director
0810	Personnel Assignment for 2012 Project
1026	Editing and Auditing of the Annual Administration Plan

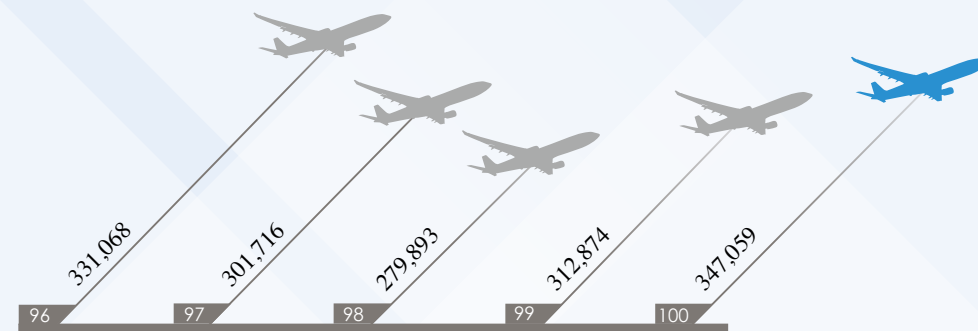


V. Operational Performance »

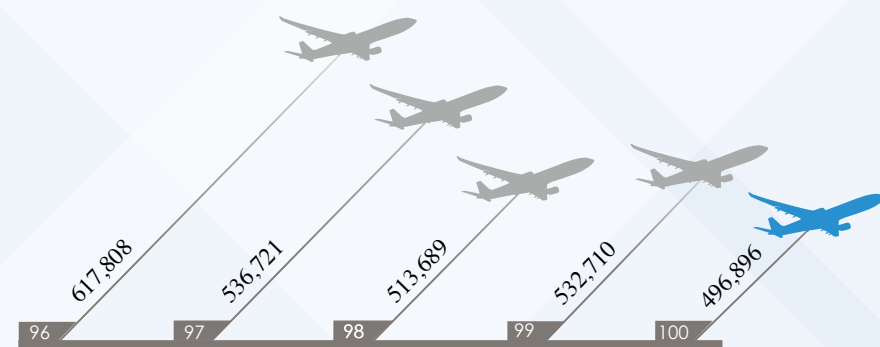
1. Air Traffic Control



A total of 1,219,600 flights in 2011, an increase of 1.1% from 2010.

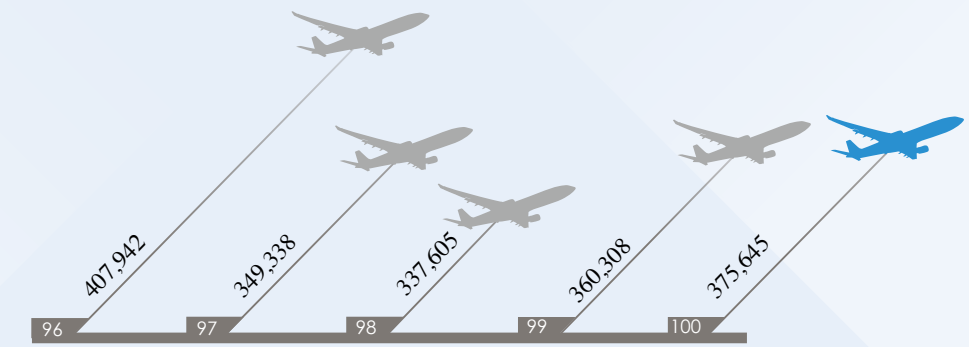


347,059 flights through Area Control in 2011, an increase of 10.9% from 2010.

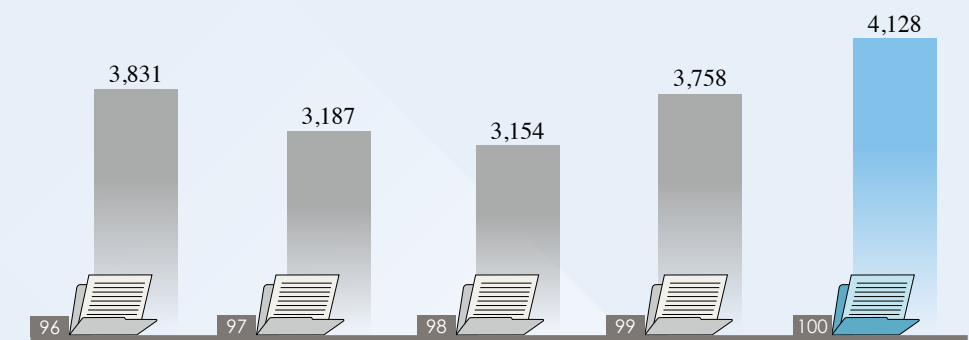


496,896 flights through Approach Control in 2011, a decrease of 6.7% from 2010.

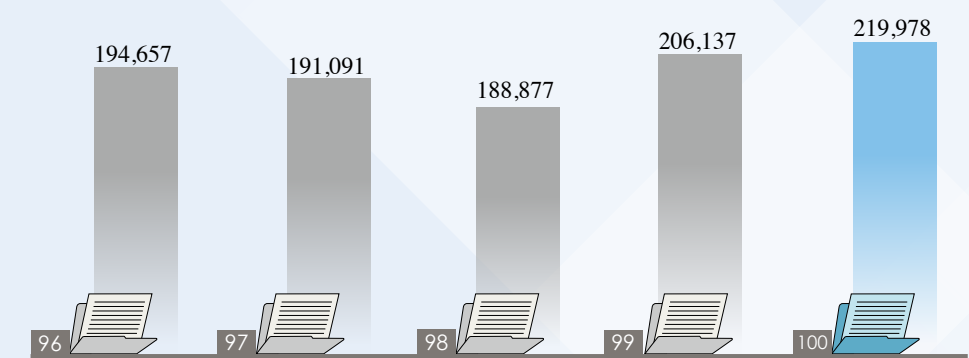
2. Flight Information



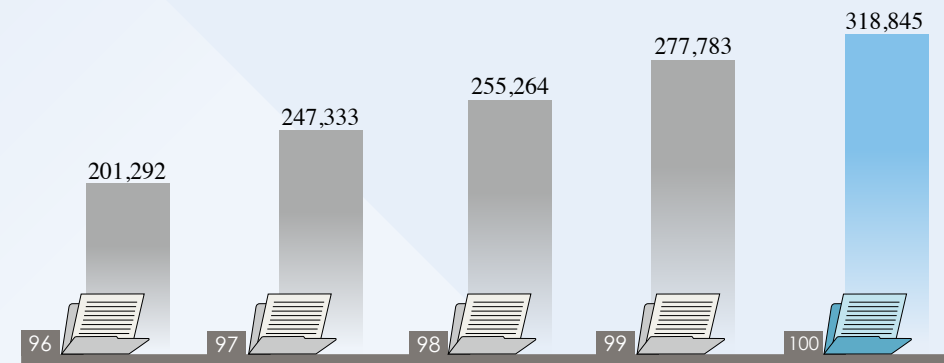
375,645 flights through Aerodrome Control in 2011, an increase of 4.2% from 2010.



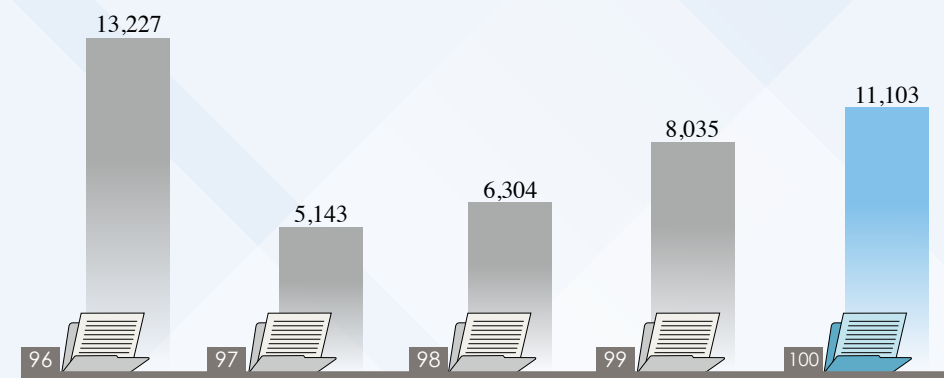
Promulgated 4,128 NOTAMs (Notices to Airmen) in 2011, an increase of 9.8% from 2010.



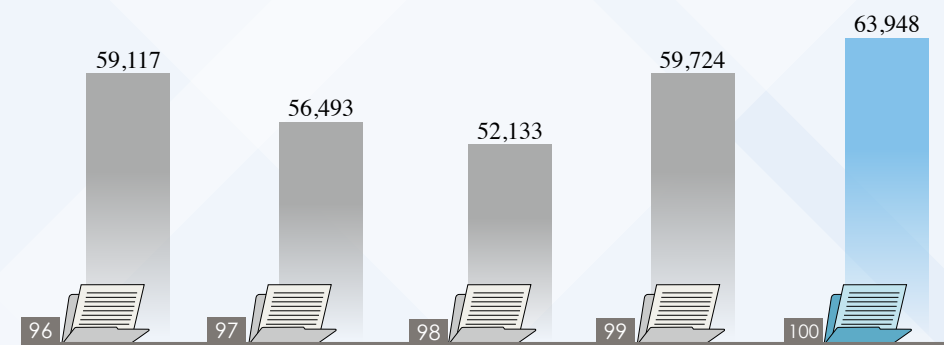
Processed 219,978 flight plans in 2011, an increase of 6.7% from 2010.



Received and handled 318,845 NOTAMs reported from other regions in 2011, an increase of 14.8% from 2010.

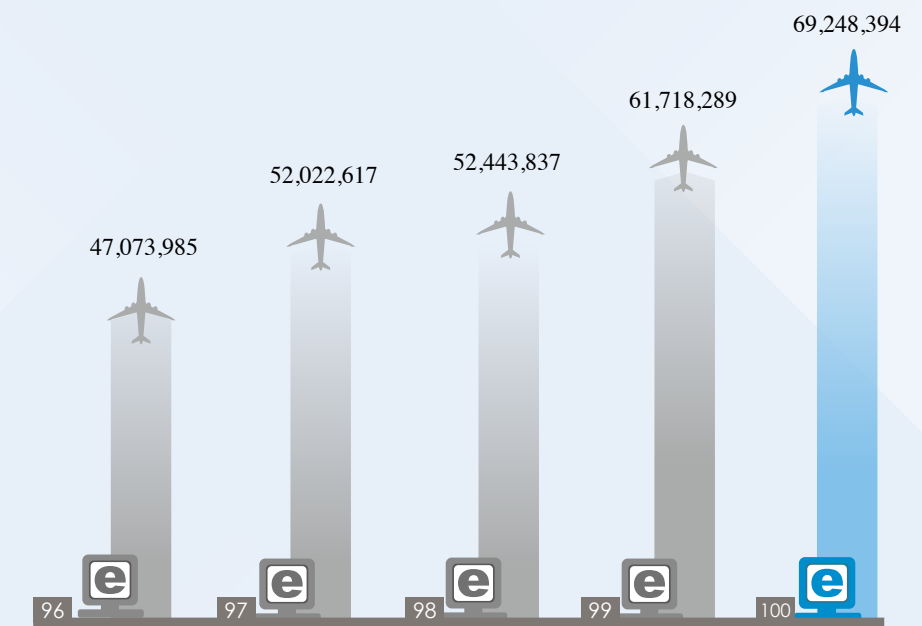


Plotted 11,103 navigation warning charts in 2011, an increase of 38.2% from 2010.

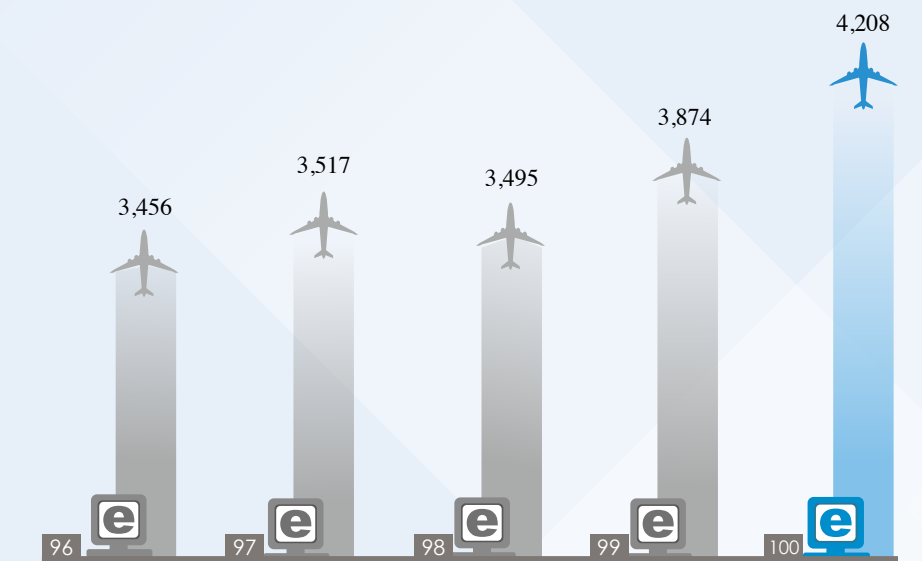


Provided 63,948 flight documents in 2011, an increase of 7.07% from 2010.

3. Aeronautical Telecommunication



69,248,394 units of the Aeronautical Fixed Telecommunication Service in 2011, an increase of 12.2% from 2010.



4,208 units of the Aeronautical Mobile Telecommunication Service in 2011, an increase of 8.62% from 2010.

4. Aeronautical Meteorology

The results for airport weather observations, route forecasts, airport forecasts and weather watches in 2011 are displayed below:

Category	Items	Results				
		2007	2008	2009	2010	2011
Airport Weather Observations	Civil airport weather observations (including periodic, special, pressure and temperature observations)	123,034	116,411	118,084	125,430	123,393
	Civil airport reports (owned by the Civil Aeronautics Administration)	123,156	118,383	120,612	128,027	126,232
	Civil airport weather trend type forecasts	96,817	89,402	91,099	93,562	94,395
	Civil airport aerodrome warnings	607	784	741	560	214
	Civil airport low level wind shear warnings (#1)	--	--	--	563	697
	Taiwan Taoyuan Int'l Airport weather radar observations (#2)	81,634	86,749	81,969	44,212	92,772
	Taiwan Taoyuan Int'l Airport weather radar reports (#3,#4)	2,957	3,009	2,920	2,432	960
	Total	426,980	414,738	417,522	388,796	431,876
Route Forecasts	Weather analysis charts	37,855	40,673	40,842	40,683	41,040
	High-altitude wind, temperature forecast charts	28,414	28,451	28,448	27,632	26,274
	Significant weather forecast charts	2,933	3,413	4,384	4,300	5,771
	Total	69,302	72,537	73,674	72,615	73,085
Airport Forecasts	Terminal Aerodrome Forecasts (TAF)	23,360	21,969	14,579	14,580	14,600
	Amendments of TAF (TAF AMD)	451	487	368	451	366
	Total	23,811	22,456	14,947	15,031	14,966
Weather Watches	Significant weather information	3,112	3,022	2,064	2,293	2,146
	Pilot reports	74	14	13	1	2
	Aerodrome reports	113,252	118,535	14,316	190,214	166,143
	Weather data	2,603,864	3,619,417	3,833,081	4,869,365	5,382,419
	Short-term forecasts	1,376	1,468	1,460	1,460	1,460
	Latest weather images	374,295	329,673	331,829	324,087	261,567
	Civil airport typhoon warnings	67	212	267	233	243
	Total	3,096,040	4,072,311	4,311,840	5,387,653	5,813,980
	Total	3,616,133	4,167,304	4,400,461	5,864,095	6,333,907

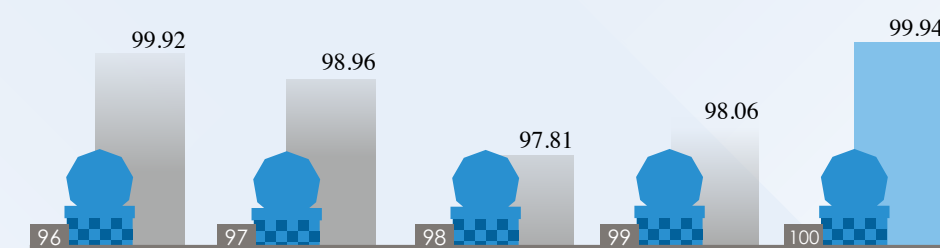
#1.Since April 1, 2010, in order to identify types of alerts, the statistics for low-level wind shear alerts have been separated from aerodrome warnings.

#2.From July 19 to December 15, 2010, the Doppler radar installed at Taiwan Taoyuan Int'l Airport ceased operation for malfunctions in the horizontal gear wheel and the motor.

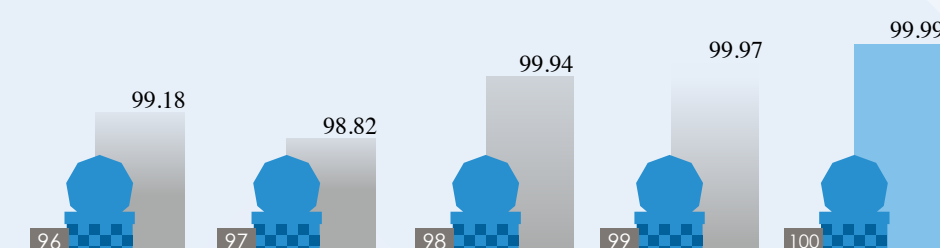
#3.From November 1 to December 31, 2010, due to the malfunction of Doppler radar installed at Taiwan Taoyuan Int'l Airport and the staffs redeployment of the TAMC, Taoyuan meteorological radar reports were suspended.

#4.Since April 1, 2011, Taipei Aeronautical Meteorological Center ceased Taoyuan meteorological radar report in cooperation with position adjustment.

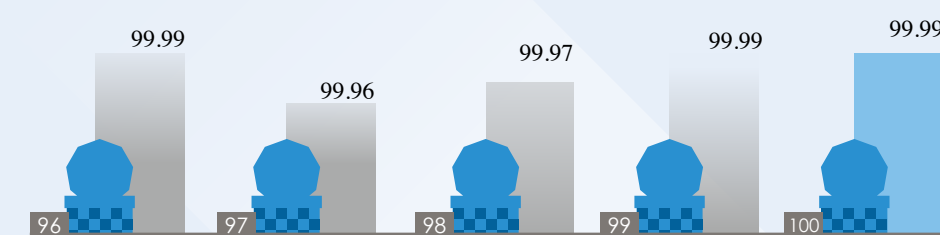
5. Aeronautical Electronics



2011 Radar Equipment availability rate is 99.94%, an increase of 1.88% from 2010.

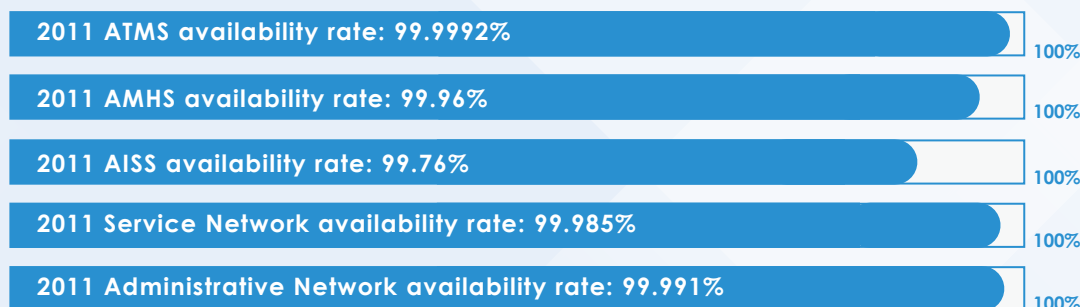


2011 NAVAIDS Equipment availability rate is 99.99%, an increase of 0.02% from 2010.



2011 Air Traffic Management System availability rate is 99.99%, same as 2010.

6. Other Flight Service Systems



VI. Condition of Facilities »

1. Radar and Surveillance Equipment

Name	Quantity	Location
En-route Radar	2 sets	Sandiaojiao and Eluanbi Radar Sites
Terminal Radar	8 sets	Taiwan Taoyuan Int'l Airport (2 sets), Kaohsiung Int'l Airport and Taipei Songshan/Taichung Qingquangang/Magong/Hualian/Taitung Fengnian Airport
Doppler Weather Radar	1 set	Taiwan Taoyuan Int'l Airport
Surface Movement Radar (SMR)	1 set	Taiwan Taoyuan Int'l Airport
Multilateration (MLAT)	2 sets	Taiwan Taoyuan Int'l Airport Kinmen Shangyi Airport

2. Navigation System

Name	Quantity	Location
Non-Directional Beacon (NDB)	13 sets	Mt. Datun, Yilan, Kinmen, Beigan, Nangan, Houlong, Hengchun, Chiayi, Tainan Xigang, Magong, Hualian, Ludao and Lanyu
Locator	16 sets	Taoyuan (2 sets), Kaohsiung, Taipei (5 sets), Hualian, Taitung Zhiben (2 sets), Pingtung, Qingquangang, Hengchun, Beigan, Chiayi
Doppler Very High Frequency Omni-Range (DVOR)	8 sets	Taoyuan, Mt. Datun, Tainan Xigang, Hengchun, Hualian, Magong, Houlong and Ludao
Distance Measuring Equipment (DME)	34 sets	Taiwan Taoyuan Int'l Airport (5 sets), Kaohsiung Int'l Airport (2 sets), Taipei Songshan Airport (3 sets)/Taichung Qingquangang (2 sets)/Tainan/Magong (2 sets)/Chiayi Shuishang(2 sets)/Hualian (3 sets)/Taitung Fengnian (2 sets)/Kinmen Shangyi (2 sets)/Pingtung(2 sets)/Beigan/Nangan (2 sets) Airport and Mt. Datun, Tainan Xigang (2 sets), Hengchun, Ludao

Name	Quantity	Location
Tactical Air Navigation (TACAN)	5 sets	Linkou, Tainan Xigang, Hengchun, Houlong and Ludao (owned by military, managed by ANWS)
Instrument Landing System (ILS) (including GP and LLZ)	14 sets	Taiwan Taoyuan Int'l Airport (4 sets), Kaohsiung Int'l Airport and Taipei Songshan/Taichung Qingquangang (1 sets)/Tainan/Magong/Chiayi Shuishang (2 sets)/Pingtung/Kinmen Shangyi/Hualian Airport
Localizer Directional Aid (LDA)	6 sets	Kaohsiung Int'l Airport and Taipei Songshan/Hualian/Kinmen Shangyi/Beigan Airport(2 sets)
Microwave Landing System (MLS)	1 sets	Taitung Fengnian Airport

3. Communication System

Name	Quantity	Location
High Frequency Tower (HF)	7 units	Taiwan Taoyuan Int'l Airport (7 sets)
Very and Ultra High Frequency Tower (VHF/UHF)	703 units	Taiwan Taoyuan Int'l Airport (98 sets), Kaohsiung Int'l Airport (87 sets), Taipei Songshan (35 sets)/Kinmen Shangyi (10 sets)/Beigan (35 sets)/Nangan (26 sets)/Taichung Qingquangang (59 sets)/Magong (57 sets)/Wangan (2 sets)/Qimei (2 sets)/Chiayi Shuishang (14 sets)/Tainan (6 sets)/Taitung Fengnian (75 sets)/Hualian (27 sets)/Ludao (27 sets)/Lanyu (16) Airport and Mt. Datun (74 sets), Sandiaojiao (32 sets), Hengchun (21 sets)
Digital Voice Communication Switch System (DVCSS)	11 sets	North and South ATS Parks, Songshan/Beigan/Nangan/Kinmen/Taipei/Kaohsiung/Magong/Hengchun Fengnian Airport Control Tower
Microwave Radio System	9 sets	Mt. Datun (3 sets), Communication/Meteorology Group of Taipei Aviation Facilities Sector, Mt. Dadong, Communication/Meteorology Group of Taoyuan Aviation Facilities Sector, North ATS Park, Communication/Meteorology Group of Kaohsiung Aviation Facilities Sector, Shoushan
Recording System	15 sets	North and South ATS Parks, Qimei/Wangan Airport, and Songshan/Beigan/Nangan/Kinmen/Taipei/Kaohsiung/Magong/Hengchun/Fengnian/Ludao/Lanyu Airport Control Tower



Taiwan Taoyuan Int'l Airport ATC Tower

4. Meteorological Equipment

Name	Quantity	Location
Automatic Weather Observation System (AWOS)	25 sets	Taiwan Taoyuan Int'l Airport, Kaohsiung Int'l Airport and Taipei Songshan/Beigan/Nangan/Kinmen Shangyi/Hengchun/Qimei/Wangan/Taitung Fengnian/Ludao/Lanyu Airport
Low Level Windshear Alert System (LLWAS)	2 sets	Taiwan Taoyuan Int'l Airport, Taipei Songshan Airport
Weather Observation Equipment of the Meteorological Sectors	10 sets	Songshan/Taoyuan/Kaohsiung/Taitung/Kinmen/Hengchun/Ludao/Lanyu/Beigan/Nangan Weather Station
Multi-dimensional Display System, Java-Based Multi-dimensional Display System (MDS, JMDS)	9 units	Taipei Aeronautical Meteorological Center, Songshan/Taoyuan/Kaohsiung/Taitung Weather Station, Taipei Area Control Center, Taipei/Taoyuan Flight Information Station and Air Force Weather Wing
Advanced Operational Aviation Weather System (AOAWS)	1 set	Taipei Aeronautical Meteorological Center
World Area Forecast System (WAFS)	1 set	Taipei Aeronautical Meteorological Center

5. Aeronautical Lighting and Airport Visual Aids

Type	Location
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Approach Lighting System (SSALR -10), Runway End Identifier Light (REIL-28), Precision Approach Path Indicator (PAPI), Runway Guard Light, Runway Signs, Distance Remaining Sign	Taipei Songshan Airport
Runway Edge Light, Runway Approach/End Light, Runway Centerline Lighting System (05L/23R), Touchdown Zone Lights (05L/23R), Taxiway Edge Light, Taxiway Centerline Lights (05L/23R), Approach Lighting System [ALSF-II (05L/23R), SSALR (05R/23L)], Precision Approach Path Indicator (PAPI), Runway Guard Light, Stop Bar Lights (05L/23R), Runway Signs, Distance Remaining Sign (transferred to Taiwan Taoyuan Int'l Airport Company and maintained by ANWS through contract Since November 1,2010)	Taiwan Taoyuan Int'l Airport
Runway Edge Light, Runway Approach/End Light, Runway Centerline Lighting System, Taxiway Edge Light, Approach Lighting System (MALSR -09), Touchdown Zone Lights (09), Runway End Identifier Light (REIL-27), Precision Approach Path Indicator (PAPI), Runway Guard Light, Runway Signs, Distance Remaining Sign	Kaohsiung Int'l Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Approach Lighting System (MALSF -21), Runway End Identifier Light (REIL-03), Precision Approach Path Indicator (PAPI), Runway Guard Light, Runway Signs, Distance Remaining Sign (partially maintained by the military)	Hualian Airport

Type	Location
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Approach Lighting System (MALSR-02), Runway End Identifier Light (REIL-20), Precision Approach Path Indicator (PAPI), Runway Guard Light, Runway Signs, Distance Remaining Sign	Magong Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Approach Lighting System (MALSR-36R, MALSF-18L), Precision Approach Path Indicator (PAPI-18L/36R), Runway Guard Light, Runway Signs, Distance Remaining Sign (apart from the Approach Lighting System, remainder maintained by the military)	Tainan Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Approach Lighting System (MALSR-04), Runway End Identifier Light (REIL-22), Precision Approach Path Indicator (PAPI), Runway Guard Light, Runway Signs, Distance Remaining Sign	Taitung Fengnian Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Approach Lighting System (ALS-36), Runway End Identifier Light (REIL-18), Precision Approach Path Indicator (PAPI), Runway Guard Light, Runway Signs, Distance Remaining Sign (apart from the Taxiway Edge Light and Runway Signs, remainder are maintained by the military)	Taichung Qingquangang Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Runway Approach Lighting System (SSALR-06, MALSF-24), Precision Approach Path Indicator (PAPI-06), Runway Guard Light, Runway Signs, Distance Remaining Sign	Kinmen Shangyi Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Approach Lighting System (MALSR-36, ALS-18), Precision Approach Path Indicator (PAPI), Distance Remaining Sign (all maintained by the military)	Chiayi Shuishang Airport
Runway End Identifier Light (REIL), Abbreviated Precision Approach Path Indicator (APAPI)	Qimei Airport
Runway End Identifier Light (REIL), Abbreviated Precision Approach Path Indicator (APAPI)	Wangan Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Runway End Identifier Light (REIL), Abbreviated Precision Approach Path Indicator (APAPI), Runway Signs, Distance Remaining Sign	Beigan Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Runway End Identifier Light (REIL), Abbreviated Precision Approach Path Indicator (APAPI), Runway Signs, Distance Remaining Sign	Nangan Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Runway End Identifier Light (REIL), Precision Approach Path Indicator (PAPI), Runway Signs, Distance Remaining Sign (transferred to the military since September 1,2011)	Pingtung Airport
Runway Edge Light, Runway Approach/End Light, Taxiway Edge Light, Runway End Identifier Light (REIL), Precision Approach Path Indicator (PAPI), Runway Signs, Distance Remaining Sign	Hengchun Airport

6. Air Traffic Control Automation System

Name	Quantity	Location
Air Traffic Management System (ATMS)	2 sets	North and South ATS Parks Controller Working Position in 11 airport control towers : Taipei/Kaohsiung/Songshan/Fengnian/Hengchun/Magong/Kinmen/Beigan/Nangan/Ludao/Lanyu
Independent Backup ATC System (IBAS)	2 sets	North and South ATS Parks

7. Other Air Service System

Name	Quantity	Location
Air Traffic Services (ATS) Message Handling System (AMHS)	2 sets	North ATS Park Work station : ATS units of ANWS, airports, airlines, military and related government units
Flight Information System (AISS)	1 set	North ATS Park Work station : Taoyuan/Taipei/Kaohsiung Flight Information Station
Automated Flight Information System (AFIS)	2 sets	Taipei Aviation Facilities Sector Work station : North ATS Park, and Taoyuan/Taipei/Kaohsiung Flight Information Station
Weather and Flight Information System (WFIS)	2 sets	North ATS Park
Voice/Data meteorological information for aircraft in flight (V/D-VOLMET)	1 set	North ATS Park
Digital Automatic Terminal Information System (D-ATIS)	3 sets	Taipei/Songshan/Kaohsiung Airport Control Tower
Air Traffic Services Service Network (ASN)	19 sets	ATS equipment and service area in Taiwan



VII. Financials >>



Chiyai Shueishang Airport GP

1. Revenue

Item	NT
2007 Total	1,029,580,652
Air navigation facility charge for overfly	1,017,290,000
Tele-communication Facilities Fee	1,597,500
Rent	369,288
Non-operating income	10,323,864
2008 Total	1,045,513,836
Air navigation facility charge for overfly	1,037,100,000
Tele-communication Facilities Fee	1,462,500
Rent	385,115
Non-operating income	6,566,221
2009 Total	943,948,696
Air navigation facility charge for overfly	927,630,000
Tele-communication Facilities Fee	1,404,000
Rent	776,405
Non-operating income	14,138,291
2010 Total	1,277,820,440
Air navigation facility charge for overfly	1,036,660,000
Tele-communication Facilities Fee	1,426,500
Air Traffic Services Charge	229,435,799
Rent	500,615
Non-operating income	9,797,526
2011 Total	2,612,929,359
Air navigation facility charge for overfly	1,204,750,000
Tele-communication Facilities Fee	1,566,000
Air Traffic Services Charge	1,400,720,315
Rent	570,603
Non-operating income	5,322,441

※ Air Traffic Service Charge is charged since November, 2010.

2. Capital Expenditures

Item	NT
2007 Total	990,952,525
CNS/ATM plan construction and equipment	783,066,373
	207,886,152
2008 Total	403,284,443
CNS/ATM plan construction and equipment	183,579,378
	219,705,065
2009 Total	753,091,476
CNS/ATM plan construction and equipment	573,497,341
	179,594,135
2010 Total	1,038,689,481
CNS/ATM plan construction and equipment	814,648,336
	224,041,145
2011 Total	696,731,267
CNS/ATM plan construction and equipment	377,949,884
	318,781,383

3. General and Administrative Expenses

General and Administrative Expenses for the past 5 years-2007: NT\$2,288,548,541; 2008: NT\$2,166,872,625; 2009: NT\$2,312,604,717; 2010: NT\$2,260,952,572; 2011: NT\$2,349,160,727. Breakdown for 2011:

2011 G&A Expenses	NT
1. Salary and wages	1,261,104,540
2. Service expenses	411,693,822
3. Equipment and raw materials	60,298,836
4. Rent and interest expenses	8,222,460
5. Depreciation	593,510,714
6. Tax and charges	7,315,951
7. Membership fees, donations, reimbursements, shared costs and public relations expenses	258,926
8. Budget shortages, compensation, and insurance payments	199,200
9. Non-operating expenses	6,556,278
Total	2,349,160,727

VIII. Activities Compilation >>

Activities>>



Lunar New Year Retiree Banquet
ANWS 1st Conference Room, February 11, 2011



7th ANWS Cup Badminton Competition
ANWS Badminton Hall, August 5, 2011



Volunteer Service Experience Seminar
North ATS Park D101 Conference Room
November 29, 2011



Family Day
North ATS Park, November 20, 2011 (1st batch)



Family Day
North ATS Park, December 11, 2011 (2nd batch)



Family Day
South ATS Park, December 10, 2011

Courses and Training Sessions>>



Lecture on Administrative Management (Case Study)
CAA International Conference Hall, February 24, 2011



Lecture on Energy Conservation & Carbon Reduction – How to Cool Earth Down
ANWS 1st Conference Room, May 18, 2011



Lecture on Consumer Protection Law – Case Study and Analysis
ANWS 1st Conference Room, June 16, 2011



Lecture on Sexual Harassment and Discrimination Appeal Protocol

ANWS 1st Conference Room, June 28, 2011



Book Review Discussion Forum

Aviation Training Institute Classroom 111
June 29, 2011



Citizen National Defense Educational Touring Promotion

Aviation Training Institute Classroom 111, July 6, 2011



News Crisis Handling and Marketing Protocol for Government

ANWS 1st Conference Room, July 12, 2011



Experience Sharing of Oversea Advanced Training

North ATS Park 1st Conference Room, July 26, 2011



Teamwork Developmental Training for Staff in Taipei Area

North Training Institute of DGH, MOTC, July 28 and 29, 2011



Teamwork Developmental Training for Staff in Kaohsiung Area

South Training Institute of DGH, MOTC
August 11 and 12, 2011



Lecture on Documentation

North ATS Park Training Classroom
August 23, 2011



New 2nd Level Management and Base Management Administrative Training

ANWS 1st Conference Room, October 27 and 28, 2011



Management Personnel Cultivation Training

Aviation Training Institute Classroom 111, November 24, 2011

IX. Prospects >>



In pursuit of enhancing aviation safety, air traffic services quality and administrative efficiency, after completion of CNS/ATM plan, ANWS continues implementing other projects such as Renovation Project of Taiwan Taoyuan Int'l Airport Control Tower Area, Technical Enhancements Project for the Advanced Operational Aviation Weather System, Fire Control Facility Improvement and Expansion Project of ANWS Old Building, Replacement Project of Instrument Landing System (ILS) Equipment in Taoyuan 05R/23L Runway, Replacement Project of Taoyuan/Taichung Terminal Radar, Installation Project of DVOR/DME in Taipei Songshan airport, etc. ANWS also plans to activate new functions of the ATM system and, in cooperation with the recently installed ATC simulator, draft new training methods and strategies, in order to consolidate operational procedures and aviation safety.

Coupling changes in domestic/international aeronautical environment and the on-going transformation of government structure, ANWS will also implement structural adjustment to improve overall service efficiency, enhance human resources, establish more well-rounded policies and cultivate further developmental potential. On the other hand, ANWS also plans to draft the mid-term and long-term developmental project of air traffic services in Taipei flight information region as a blueprint for the prospective development for the next 10 years. We expect all ANWS personnel to perform under utmost teamwork efforts and continue delivering excellent results.

X. Major Events >>

- 0101**
Joined Civil Air Navigation Services Organization.
- 0118**
CAA Deputy Director General Chen, Tien-Tsyh inspected ANWS units in Taitung Area and distributed Chinese New Year subsidies.
- 0119**
CAA Director General Yin, Chen-Peng inspected ANWS units in Kaohsiung Area and distributed Chinese New Year subsidies.
- 0125**
Aviation Safety Council Director Chang, Yo-Heng visited North ATS Park.
- 0126**
Conducted 2011 Property Management and Maintenance Performance inspection.
- 0127**
CAA Director General Yin, Chen-Peng inspected ANWS units in Taoyuan, North ATS Park, Linkou and Holong area and distributed Chinese New Year subsidies.
- 0131**
CAA Director General Yin, Chen-Peng inspected the ANWS at Binjiang District and distributed Chinese New Year subsidies.



- 0201**
In response to the needs of airline companies, a weather chart between ground level and 45,000 ft. of Southeast Asia region was added to Aeronautical Meteorological Service Page.
- 0201**
Taiwan Taoyuan Int'l Airport and Taipei Songshan Airport officially implemented ATC Aircraft Departure Permitted Altitude Streamlined Operation.
- 0211**
Hosted 2011 Lunar New Year Retiree Banquet, with a total of 180 participants.
- 0223**
Taiwan Commercial Representatives stationed in Austria visited North ATS Park.
- 0225**
MOTC Deputy Minister Guo Tsai, Wen inspected North ATS Park.



0307

Vice director of Department of General Affairs, MOTC Von, Tin-quan inspected ANWS and conducted a preliminary site evaluation for the 2010 Archive Quality Award.

0309

MOTC Deputy Minister Yeh, Kuang-Shih inspected North ATS Park.



0310

Representatives from Japanese Civil Aviation Bureau (JCAB) arrived in Taiwan for a 2-day bilateral "ATS Inter-facility Data Communication (AIDC) Technology Exchange Meeting".

0401

A total of 6 Doppler Weather Radar Administration Desks in Taipei Aeronautical Meteorological Center were integrated to 5 for manpower regulating and operation consideration.

0426

Strengthen and Supporting project for Advanced Operational Aviation Weather System(AOAWS) (2006-2010) was concluded and approved by CAA.

0512

ANWS Director Jean Shen briefed the CNS/ATM plan to MOTC.

0518

Organized Annual Japan – Taipei Weather Data Service Conference.

0601

ICAO representatives from 4 of Taiwan's diplomatic alliances: St. Lucia, Guatemala, Paraguay and Dominica visited North ATS Park.



0613

China Airline and China Meteorological Society Discipline (Work) Committee both hosted Second Cross-strait Aviation Weather Work and Technology Exchange and Spring Rain Forecast between June 13 and 17 as a means of cross-strait exchange.

0615

Completed Taiwan Taoyuan Int'l Airport Surveillance Enhancing System Post-Integration Functional Expansion.

0629

Hosted Taiwan ATC Development Review Exhibition.

0630

Aeronautical Information Publication announces Taipei FIR to be jointly provided ATS by Taipei Area Control Center, Taipei Approach ATS Control Tower, and Kaohsiung Approach Control Tower.

0701

Aeronautical E-Services officially activated.

0707

Cross-strait Air Transport Exchange Council visited Kaohsiung Approach Control Tower.

0713

76 international students from the Ministry of Foreign Affairs "2011 Taiwan International Young Student Learning Camp" visited North ATS Park.

0718

MOTC Minister Mao, Chi-Kuo, along with MOTC Deputy Minister Yeh, Kuang-Shih, Department of Navigation and Aviation Director Hao, Wen-jong and CAA Director General Yin, Chen-Peng, inspected North ATS Park and congratulated all on the implementation of the new ATC Automation System.



0808

Mongolian CAA Deputy Director General ALTANTSOM Baldandorj visited ANWS Director Jean Shen and Songshan Airport Control Tower.

0823

64 international students from the Ministry of Foreign Affairs "2011 Taiwan International Young Student Learning Camp" visited North ATS Park.

0824

ANWS ATC System, DVCSS and ASN passed the British Standard Institution Pacific Ltd. Information Safety System certification on August 24 and 25, 2011.

0825

Dominican CAA Commissioner Alejandro Herrera visited ANWS Director Jean Shen and Songshan Airport Control Tower.

0826

Taiwan Taoyuan Int'l Airport 05/23 runway was renamed as 05L/23R; 06/24 runway was renamed as 05R/23L.

0901

Pindong Airport ceased operation, navigation aid facilities and related properties were turned over to the military.

0902

ANWS Director Jean Shen, along with Deputy Director Huang, Li-chun and 6 participated in the 6th Cross-strait Aviation Weather and Flight Safety Seminar in Sian, presented 6 articles on the subject, and visited Chinese Northwest ATC Weather Center.

0912

Japanese Air Traffic Control Association (ATCA-J) Deputy Chairman Mr. Akio visited ANWS along with Japanese NTT DATA Company engineers and engaged in discussion regarding the implementation of the CNS/ATM plan.

0913

Training Section was initiated under the Air Traffic Service Management Office.

1005

New ATC Automation System activated on October 5, MOTC Minister Mao, Chi-Kuo hosted the ceremony.

1011

Danny Philip, Prime Minister of Solomon Islands, along with 16 others, visited North ATS Park.





IV. Major Achievements

1013

Flight Information Section and Aeronautical Telecommunication Section of Air Traffic Service Management Office were integrated to Flight Information / Telecommunication Section.

1020

Linkou LK Positioning Tower officially initiated.

1103

Diplomatic alliance Democratic Republic of Sao Tome and Principe Public Construction and Natural Resources Director Carlos Manuel Vila Nova visited Runway and Navigation Aid facilities in Taipei Songshan Airport.

1109

MOTC Deputy Minister Yeh, Kuang-Shih inspected South ATS Park and surveyed avionics units.

1130

Ambassador Moumouni Dieguimde, Permanent Representative of Burkina Faso on the Council of ICAO, and Mr. Douglas Frederick Litchfield, Representative of Swaziland on the Council of ICAO, visited North ATS Park with Taiwan Canadian Office representative Li Dawei.



1207

MOTC Minister Mao, Chi-kuo inspected Taiwan Taoyuan Int'l Airport runway 05L/23R renovation progress, SP taxiway renovation progress, and SC taxiway sectional light installation.

1214

Kaohsiung and Magong Terminal ATC Radar Replacement was completed on December 14, 2011.

1214

System Monitor/Control Group of the Information Management Center was changed to Power Group; Xiang'an Communication Site was renamed as Telecommunication Equipment Group.

1226

International Aviation Affairs Section was initiated under the Air Traffic Service Management Office.

1231

CNS/ATM Development and Implementation Plan was completed. CNS/ATM System Program Office was relieved.

