Products & Services



AIS Documentation

ATNS Aeronautical Information Services (AIS) has the operational and technical capability to provide a professional consultancy and production service in the field of Aeronautical Documentation.

The documentation section has the infrastructure to provide a complete Integrated Aeronautical Information Package (IAIP) to the ICAO Standard, as specified in the ICAO Annex 15 and to the customer's requirements i.e. Aeronautical Information Publication (AIP) and the Amendment Service, AIP Supplements, Aeronautical Information Circulars (AIC), NOTAM Checklist and Summaries, AIP is compiled in the ICAO three parts format consisting of General (GEN), En-route (ENR) and Aerodromes (AD).

All documents are produced in A4 print master size, with a layout which will accommodate reduction to A5 format without further text manipulation. AIS can provide print master copies to the customer for own printing or if required, arrange for the printing, packaging and delivery of the printed product to the customer for distribution. Information can also be provided electronically.

aXcess AIS- A Document Management System

System aXcess, developed for ATNS AIS by a South African Information Technology company is currently utilized to manage the development and updating of aeronautical data, e.g. AIP, AIP Supplements and AIC's for ATNS clients.

The system consists of three types of workstations namely, administrator, editor and publisher. Some of the system functionalities include:

- Data-based controlled access Each user has to log into the system as an administrator, editor or publisher
- Create/import new AIP's or AIC's into the archive and master environments
- Create new revisions of aeronautical documentation, e.g. AIP, AIC etc.
- Retrieve a document from the Archive and Master environment to the Working environment, where the document can be opened, reviewed and edited
- Allocate certain documents to specific users. Other personnel cannot access documents allocated to certain users
- Approve documents and move them back to the Archive and Master environment from the Working environment
- Open, view and edit documents
- View the Status of documents
- Re-allocate documents to other users
- Display a list of specific documents in the Document List Box, which allows the Editor to select and open the document
- Allows the Editor to edit or make changes to documents by means of an editing application (MS Word)
- Save documents and send for approval by the System Administrator
- View the Publishing status of a document
- Print paper documents
- Publish PDF documents with the purpose of viewing on the Web

References:

- Namibia
- Cabo Verde
- Mozambique
- Swaziland

Billing Services

ATNS has the capability and infrastructure to offer billing services to individual States for collection of aircraft's movement fees from non IATA member airlines, thereby enhancing the States' financial muscle to continuously maintain the ATM infrastructure. The ATNS billing system allows for setting up a separate user customizable billing environment. The billing system provides for capturing and processing records of aircraft landing and en-route information, in order to bill aircraft approach fees as well as en-route fees.

ATNS offers billing services to service providers such as Régie Des Voies Aériennes, (RVA) in DRC, Namibia DCA and South African Weather Services (SAWS).

The main objective is to ensure that the system is efficient and effective. The billing services model offers the client the option to either choose to send electronic data reflecting aircraft movements to ATNS for generation of invoices or compute the charge and generate its own invoices and forward the electronic invoices to ATNS for collection of fees from airlines.

At ATNS the aircraft movement data is captured into the billing system by the Air Traffic Service Assistants (ATSA's) using the tower log system.

Components of the Billing System

The Billing System consists of the following three components, data capturing, data transfer and data processing. The aircraft's movement data that is captured by the Air Traffic Controllers at the airports is used as input data to the billing system for the generation of invoices.

This Billing System was designed to do data correction at the first line of the billing process. Each data entry will therefore be checked to ensure that the data entering the system is valid and in the right format. This component of the billing system is based at ATNS.

All the processes and functions performed by this component of the system are the responsibility of ATNS.

Engineering Services

ATNS undertakes the planning, specification, acquisition and implementation of the South African national aeronautical communication, navigation and surveillance system. Professional consultative services in this respect are offered to other air navigation services providers in support of their national development programmes. The services can be provided on either an hourly basis, a job basis or on a turn key basis. Services available are as follows:

- Communication, navigation and surveillance system design
- Coverage planning and site selection
- Radio frequency planning
- Communication, navigation and surveillance system specification
- Acquisition management services
- Project management services

References:

• Department of Civil Aviation Republic of Namibia:

Surveillance System planning and specification Department of Civil Aviation Republic of

- Department of Civil Aviation Republic of Namibia:
 Project Management services in respect of infrastructure upgrade
- Tanzania Civil Aviation Authority: VHF radio planning study and Recommendations
- Polokwane International Airport: Navigation and Landing aids planning and project management
- Southern African Development Community: Planning, acquisition and operation of VSAT services for aeronautical use
- North East African States under the auspices of the East African Office of the International Civil Aviation Organisation:

Planning of VSAT services for aeronautical use International Civil Aviation Organisation Cairo

Office: Feasibility study for an aeronautical VSAT network

for the Middle East region

Flight Procedure Design

The Flight Procedure Design Section has the infrastructure, equipment and expertise to design and verify Flight Procedures and Airspace Development.

The Flight Procedure Design section aims to add value to the operations of clients by designing safe and efficient instrument and non-instrument procedures that will allow optimization of operation capabilities. This service is conducted in accordance with ICAO Standards and Recommended Practices (SARP's) as complemented by ISO9001:2000 Quality Standards. ISO 9001:2000 Certification was achieved in 1998, and is maintained.

The department has newly trained procedure designers, who were mentored by National Air Traffic Services (NATS) in the UK. They are qualified and utilize various specialized procedure design software tools to ensure data accuracy and integrity.

Various flight and technical tolerances, as defined by ICAO, are applied to designs in order to ensure safety and to promote efficiency. The final chart product is in compliance with ICAO charting SARP's and client requirements.

The following specific services are provided:

- Non-precision Instrument Approach Procedures design or verification, including Global Navigation Satellite System procedure (e.g. VOR/DME, NDB, Localizer and GNSS)
- 2. Precision Instrument Approach Procedure design or verification (e.g. ILS)
- 3. Standard Arrival Route (STAR) and Standard Instrument Departure (SID) Procedure design or verification
- 4. Air Route (including RNAV) and Airspace design or verification
- 5. ICAO Annex 14 Obstacle Evaluations
- 6. Obstacle and building restrictions on and in the vicinity of airports
- 7. Aviation consulting relating to procedure and airspace design

References:

- Namibia CAA
- Cabo Verde Air Navigation Service Provider (ASA)
- Airports Company of South Africa (ACSA)
- Richards Bay Municipality
- Angola (ENANA)
- SA Express Airlines
- South African Civil Aviation Authority (SACAA)
- MTN
- VODACOM
- Lanseria Airport Management
- United Nations

Training

The Aviation Training Academy (ATA) utilizes computerbased training (CBT), radar simulators, engineering laboratories as well as 2-D and 3-D aerodrome simulators to the highest industry and safety standards.

Since April 2000, the ATA has proudly trained more than 8365 international and local delegates. Various training programs are offered to prepare graduates for a successful professional career in Air Traffic Services and Engineering Support.

The ATA:

- Offers comprehensive and cost effective quality training in all disciplines associated with air traffic management
- Presents all listed training courses as an entity or as refresher training
- Is committed to upholding aviation safety standards, legislation and practices
- Rigorously trains and upgrades safety knowledge and skills
- Puts people and safety first
- Complies to world class quality training ISO 9001: 2000 certified
- Subscribes to ICAO Standards and Recommendations Practices (SARPS) and Requirements
- Is accredited to various domestic and international institutions





AT/AIM Core Content

Requirements:

Learners will have successfully completed secondary level education with English language, mathematics and preferably geography as subjects passed.

Course Content:

- Life skills
- ICAO Organisation, Planning Processes, Procedures and Documents
- Aerodrome Physical
- Navigation and Maps
- Meteorology
- Avionics
- Aviation legislation
- Aircraft Identification, performance and Principles of Flight
- Instrument and Approach Procedures
- ATS Messages and Practical
- ATC/AIM Theory and Procedures
- Aviation Exposure
- Search and Rescue

Qualification:

Aeronautical Information Services Air Traffic Service Assistant

Aerodrome Control

Requirements:

Participants on this course will have satisfied the relevant authorities of their aptitude and abilities for air traffic control and will have successfully completed the ATSA courses.

Course Content:

- ATC General (Reinforcement)
- ATC Theory and Procedures
- Aerodrome Control
- Air Law (Update only)
- Navigation (ELECTIVE)
- Meteorology (ELECTIVE)
- Search and Rescue procedures
- Technical
- ATM/cns
- Simulated Operational Training

Qualification:

Aerodrome Controller

Approach Procedural and / or Radar Control Requirements:

Participants will have successfully completed the Aerodrome Control Course (ATNS participants will also

have successfully completed an entrance examination, based on all subject matter covered during ATSA courses and the Aerodrome control course).

Course Content:

- General ATC Procedures (Reinforcement)
- Approach Control Procedures
- Separation Standards
- Radar Control and Surveillance Theory
- Radar Technical
- ATM/cns
- Meteorology
- Approach Procedural Simulated Exercises
- Approach Radar Simulated Exercises

Qualification:

Approach Procedural and/or Radar Controller

Area Procedural and /or Radar Control

Requirements:

Participants on this course will have successfully completed the Aerodrome Control Course (ATNS participants will also have successfully completed an entrance examination, based on all subject matter covered during ATSA courses and the Aerodrome Control course)

Course Content:

- General ATC Procedures (Reinforcement)
- Area Control Procedures
- Separation Standards
- Radar Control and Surveillance Theory
- Radar Technical
- CNS/ATM
- Meteorology
- Area Procedural Simulated Exercises
- Area Radar Simulated Exercises

Qualification:

Area procedural and/or Radar Controller

Air Traffic Service Refresher Training Courses

Refresher training is presented to qualified air traffic controllers in the following disciplines:

- Aerodrome Control
- Approach Procedural Control
- Approach Radar Control
- Area Procedural Control
- Area Radar Control



Engineering Technician-Communications Category Courses:

- Introduction to Air Traffic Communication Systems
- Transmitter & Receiver Systems Concepts
- Telecommunication Systems Concepts
- Voice Communication Systems Concepts
- VHF TX: Park air 1500/2100 RX- Equipment
- AIS/AFTN Systems Concepts

Engineering Technician-Navigation Category Courses:

- Introduction to Air Traffic Navigational Systems
- CVOR Systems Concepts
- DVOR Systems Concepts
- DME Systems Concepts
- ILS Systems Concepts
- ILS: Thomson 381-Equipment
- NDB: Southern Avionics-Equipment
- DRDF: Fernau-Equipment
- CVOR: Thales 431- Equipment
- DVOR: Thales 432 Equipment
- DME: Thales 435 Equipment

Engineering Technician-Surveillance Category Courses:

- Introduction to Air Traffic Radar Systems
- PSR Systems Concepts
- SSR Systems Concepts
- Surveillance Data Processing Systems Concepts

General Support Category

Courses:

- Electronic Test Equipment
- Cables & Cable Jointing
- Data Communications
- Networking
- Advanced Networking
- Introduction to Satellite Communication Systems
- Computer Skills
- Systems Maintenance Theory
- Introduction to ATM Operational Concept
- Digital Techniques Practice
- Practical Project Management
- Antennas

Please note:

The above Engineering courses can be packaged to suit the individual client's needs.

For all courses certain prior course requirements apply.

Further Aviation Management Professional Development Qualifications

Specific prescribed entry qualification and experience requirements have to be met prior to acceptance to these training programmes.

ATNS is an accredited training institute for IATA training courses.

IATA/ATNS Training Programme



Target group:

Applicable to all aviation management professionals

Qualification offered:

International aviation management training programmes offered by the International Air Transport Organization Training and Development Institute (IATA/ITDI):

- Diploma in Air Navigation Systems Management
- Diploma in Civil Aviation Management
- Diploma in Airport Management
- Diploma in Human Performance/Project Management
- Diploma in Safety Management in Civil Aviation
- Diploma in Airline Operations(in conjunction with South African Airways)

ICAO GSI Training Programme





Careers: Flight Operations Inspector Airworthiness Inspector

Qualifications offered:

International Civil Aviation Organization (ICAO) in conjunction with SACAA and ATNS Government Safety Inspector (GSI) Programmes:

- ICAO GSI Operations: Air Operator Certification Course
- ICAO GSI Airworthiness Certification Course
- ICAO GSI Train-The-Trainer Course

VSAT/NAFISAT

The SADC VSAT Network has been operational since 1998 and has eliminated all communication deficiencies in the SADC region. This network fulfils the region's communication requirements in terms of the ICAO Africa Indian Ocean (AFI) plan. It has succeeded in integrating a regional communications network, contributing to increased communication allowing for greater safety on air traffic movements and is financially sustainable.

ATNS is the network service provider and cost recovery for capital and operational costs is through a special tariff agreement with IATA. Connectivity with the ASECNA states was achieved in October 2002 and in 2003 and 2004 Burundi and Rwanda joined the network. The following states are also part of the network:

- Angola
- Democratic Republic of Congo
- Malawi
- Mozambique
- South Africa
- Tanzania
- Zimbabwe

- Botswana
- LesothoMauritius
- Namibia
- Swaziland
- 7ambia
- Zallibla

Cape Town to Cairo

The SADC VSAT II network became operational on 1 December 2007. The replacement of the network was necessitated by technological advancements, user requirements, as well as the fact that the SADC VSAT equipment had reached its "end of life". The deficiencies of the network further required that the network be replaced.

In 2001, ATNS and IATA were appointed the network service providers for the VSAT network in the North Eastern Africa region. The network is known as the NAFISAT network. The network is made up of:

- Djibouti
- Eritrea
- Libva
- Saudi Arabia

Seychelles

Egypt

Ethiopia

Tanzania

Kenva

- Somalia
- Sudan
- Yemen

Uganda

The network became operational on 1 April 2008.

ATNS works closely with ASECNA, the operator of a VSAT network in West Africa known as AFISNET. Both the SADC VSAT II network and the NAFISAT network are interconnected with AFISNET through Congo, Ghana, Chad, Niger, Senegal and Côte d'Ivoire.

ATNS also implements domestic VSAT networks that provide amongst others AFTN, ATS/DS, VHF, radar data, remote monitoring and control services and IP services for WAN.

WGS-84 Survey

ATNS Aeronautical Information Service (AIS) has the operational and technical capability to provide a professional consultancy and surveying service in the field of Aeronautical WGS-84 surveying. This service is conducted in accordance with ICAO Standards and Recommended Practices (SARP's) as complemented by ISO9001: 2000 Quality Standards. ISO 9001:2000 Certification was achieved in 1998, and is maintained.

What is WGS-84?

The World Geodetic System of 1984 (WGS-84) is a mathematical model or an ellipsoid that represents the shape and size of the earth. The WGS-84 ellipsoid has its centre coincident with the centre of gravity of the earth, and is known as an earth centered earth fixed system. WGS-84 has become the international standard for positioning and navigation in aviation.

Why Conduct a WGS-84 Survey of Aerodromes and Navigation Aids?

The contracting states of ICAO agreed that WGS-84 is implemented by 1 January 1998. This statement appears as standard in the relevant ICAO Annexes.

In view of ICAO's adoption of the WGS-84 system as the Standard geodetic reference frame, it will be necessary to convert all aeronautical co-ordinate data into the WGS-84 reference system by this date. Many States have not been able to comply with this requirement by 1 January 1998; however efforts are ongoing to convert all the required data to WGS-84 as soon as practicable.

The WGS-84 survey supports the implementation of the global ATM/cns (Air Traffic Management/ communications, navigation and surveillance) which includes the GNSS (Global Navigation Satellite System) Instrument Approach system.

ATNS and the Implementation of WGS-84

ATNS has the capacity and has for the past 10 years been conducting aerodrome and navigational aid surveys to the ICAO WGS-84 Standards and Recommended Practices (SARP's).

All survey data is quality controlled utilizing an electronic data quality tool set, and quality assurance is applied in accordance with ISO 9001: 2000 standards.

References

- International Civil Aviation Organisation (ICAO)
- Regie des Aeroports du Rwanda Rwanda
- Empresa National de Aeroportos E Seguranca Aerea EP (ASA) - Cape Verde
- North-West Province Government
- Rand Mutual Hospital
- Airport Company of South Africa (ACSA)
- Richards Bay Municipality
- FOSKOR Limited
- SIA Solutions
- South African Civil Aviation Authority (SACAA)
- Namibia CAA
- Madagascar CAA
- Ivory Coast CAA
- Kenya CAA
- Angola ENANA
- Gambia
- Grintek Electronics
- Lanseria Airport Management
- United States FAA
- Burundi
- Guinea Bissau
- Uganda
- Matjhabeng Municipality
- Ethiopia
- Maldives
- Eritrea
- Djibouti
- United Nations
- Democratic Republic of Congo (DRC)