TOGETHER, let's improve the sky

N°2 – MARCH 28, 2016

Restructuring Sudan Airspace in progress Inception Report & Workshop PBN/RNAV

Only one month after the Kick-Off Meeting, Sudanese Civil Aviation Authority welcomed from March 15 to 17 in Khartoum ACC, several pilots and airlines representatives, air traffic controllers, military authorities and various stakeholders, for a workshop dedicated to PBN concept, RNAV procedures and adapted phraseology

PBN & RNAV Workshop

Between 90 and 120 participants took an active part in this three-day workshop dedicated to the Performance Based Navigation concept (PBN), RNAV procedures and adapted phraseology.

Beyond the concept, various examples were presented on the basis of the future RNAV procedures in Khartoum Airport and the discussions were fruitful. Samuel Begouin and Vincent LEON, the two facilitators, regularly gave the floor to the participants and many interesting debates took place between pilots and controllers.

At the end of the workshop, participants unanimously praised the warm welcome of SCAA and confirmed their interest in this type of presentation. Appointment is confirmed for the next workshop in early May (the exact dates and program will be announced shortly).

Inception Report

The Inception Report provided by CGX-Aero and DSNA Services has been officially delivered to SCAA on March, 17.

The Inception Report should be seen as an intermediate step in the realization of Sudanese airspace restructuring project. It includes a first analysis of the current situation and introduces several tracks for a common brainstorming.

Of course, all future considerations including responses to Airlines and ATCOs questionnaires will be considered as they are received, and will be integrated in the scenarios proposed in due course. By the same way, all the discussions and exchanges between Sudanese and French project teams will be considered.

Safety concern

In the world of air traffic management, safety is an essential target. Any change in procedures, technical equipment or working methods must be supported by the implementation of a safety concern assessment in every field. All along the project launched by SCAA that concerns Sudan airspace design, safety must remain an essential aspect. Consequently a safety study will be included and conducted simultaneously. From the current situation until the implementation of the new design, every risk must be considered, reduced and as far as possible eliminated.

Included in the Inception Report a list of present difficulties and risks will help us to select what direction can be steered to reach the best airspace organization in the safest way. On every step of the project, safety concern will remain constantly overseen as an essential aspect.

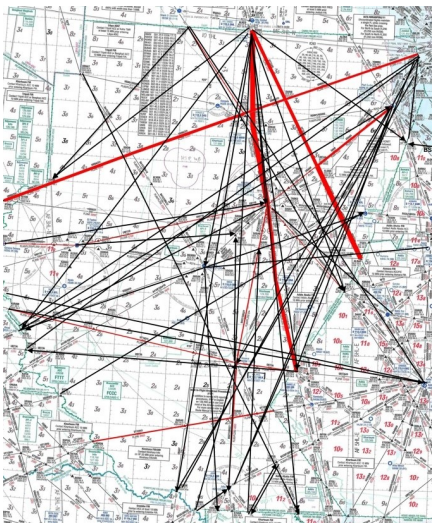
For every proposition of new routes, new waypoints as well as new airspace organization, pros and cons will be weigh precisely before a decision is made. At last once the new airspace design is adopted a second safety assessment will be conducted to manage transition between former and new organization.

The new airspace design will be a successful advent providing that it complies with efficiency and with what is most important, safety.

Fast Time Simulations

French Project Team is already preparing Fast-time Simulations with OPAS tools.

Fast-time simulations are designed for quick and cost effective studies to optimize traffic flows and airspace usage.



The goal is to provide airspace and air traffic models ideal for capacity studies, resectorisation projects and reorganization of routes or free-route. The results encompasses figures to evaluate performance indicators.

OPAS is a fast time simulator developed and used since 1998 that implements Air Traffic Control pseudo instructions sent to an aircraft in the simulation, so as to adjust speed, level, or headings and ensure separation. Thus, OPAS contains inbuilt data and functions so as to imitate Air Traffic Control and to simulate aircraft behavior. Therefore trajectories generated by the simulator are very close to radar tracks as observed in real life.

The inputs are based on flight plans, performance model such as BADA, sectors, network (beacons, airnav points and routes), airports and restricted areas. Output recorded and available to the customer are notably sector entry and exit times, flows through sectors, conflicts, etc... And more generally everything that is based on geometry.

The accuracy of the simulator allows for comparing the emissions of an aircraft in different airspace configurations. OPAS produces a variety of information on aspects of noise, carbon emissions, airspace traffic density, in order to optimize these.

Output files can usefully be presented as graphics such as trajectories, density maps, contours and 3D views.

Real-Time Simulations

"The air traffic control simulator of air navigation centre is the most important achievement in the field of training and development of the profession of air traffic control in Sudan. Established in 2005, accompanying with EUROCAT system operating in air traffic control centre and the Training started as EUROCAT system interaction in preparation for the transition of the control from procedural air traffic control to automation ATM systems.

After that was activated for the training in approach surveillance control that for air traffic controller did the course for this type of control training and did not get radar approach license to practice the profession that after I established training exercise packaged for this purpose

The big challenge was the qualification of air traffic controllers for area surveillance control; it's the first time in Sudan to provide this type of service

This was in collaboration with ENAC, was a unique experience to establish this type of service in Sudan was the first challenge for the design of training and packaged for this purpose, and I strain the preparation for two weeks after that has been ratified by ENAC staff and expressed his appreciation for the success of this work as required to perform training and then qualified air traffic controllers to work as trainers and examiners to train the rest of the controllers.

Simulator will be play a great role in the training process of air traffic controllers after the redesign Sudanese airspace.

Training includes:

- New routes conventional or performance-based navigation and new sectors, and training in new procedures.

- Also help in validation of new procedures and design.

We are going to develop new packages for this purposes."

Mohamed Zeinelabdin Osman
System ops admin and senior ATM

Military expression with General pilot psc Elkashif Chairman of civil military committee - Representative of military authority

~ ~ ~

I want to say that there was a committee from the Sudan airforces and civil aviation authorities so as to establish and maintain the coordination between the two bodies.
The committee held so many meetings so as to solve the problems regarding the safety and the maximum use of the air space in a flexible way and to avoid any conflicts that may take place. The committee working in accordance to icao cr 330 and trying to establish the general public policy plan for using the air space.
The committee share in the reconstruction of the air space and keep close and continuous coordination so as to maintain an orderly flow of air traffic in a safe and economic way for all stakeholders.
I want to say that the military authority consider the importance of free movement and the free air space and safety of the skies, and trying to coordinate with all stakeholders so as to keep and maintain the security and the National interests.
I should thanks our partners in France (CGX / DSNA Services) for their efforts in upgrading the flight services in Sudan.

Upcoming event

- **April 11 to 18**: Workshop in France with Sudanese Project Team.