

Date: 29-Jan-2008

## Field Report

MARCO OOMS

*Name*

IPSC/MARE/ECCAIRS

*Division/Sector*

Object of the mission

ECCAIRS 4 Technical (Administrators) Training Workshop – Lecturer

Place, date, organizations visited and contacted persons

*(Please continue on a separate sheet, if necessary)*

Dakar, Senegal – 10 to 14 december 2007 – International Civil Aviation Organisation (ICAO) Western And Central African (WACAF) Regional Office – Mr. Georges Baldeh

Other Participants

*Of the establishment*

*Other services of the commission*

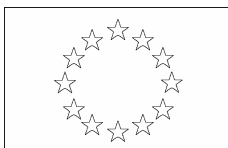
*Other entities*

A total of 27 people have participated to this workshop (names on next pages).

Main Results:

*(Please attach as many separate sheets as necessary)*

See next pages.



## **ICAO WACAF – ECCAIRS Training**

### **Context of the Training**

The ECCAIRS 4 Technical (Administrators) Training Workshop was organised by the Western And Central African (WACAF<sup>1</sup>) Regional Office of the International Civil Aviation Organisation (ICAO) in Dakar, Senegal, in junction with ICAO's Headquarter (HQ) in Montréal, Canada, and the European Commission's Joint Research Centre (JRC) in Ispra, Italy, in the light in the established cooperation between ICAO and the JRC.

WACAF also provides support and assistance to the Secretariat of the African Civil Aviation Commission (AFCAC), which is a specialized agency of the African Union (AU) in the field of civil aviation.

The mission and the DSA of the instructor from the JRC were sponsored by ICAO HQ, with the ICAO WACAF office hosting the training at their premises.

Contracting States to which WACAF is accredited<sup>1,2</sup>:

**Benin** (A)

Burkina Faso (A)

Cameroon (A)(AP)

**Cape Verde**

Central African Republic (A)

Chad (A)

**Congo** (A)(AP)

Côte d'Ivoire (A)

**Democratic Republic of the Congo** (A)(AP)

Equatorial Guinea

Gabon (A)

Gambia (A)

Ghana (A)(AP)

Guinea (A)

**Guinea-Bissau**

Liberia (A)

**Mali** (A)

**Mauritania** (A)(AP)

Niger (A)(AP)

**Nigeria** (A)(AP)

Sao Tome and Principe

**Senegal** (A)(AP)(a)

Sierra Leone (A)

**Togo** (A)(AP)

Organisations from States written in **bold** have sent a delegation to the ECCAIRS course. ICAO WACAF staff also participated (full list at the end of this document).

### **Background and Objective**

Aviation Safety on the African continent is considered a high priority issue for ICAO. In an effort to improve the promotion and implementation of Safety Management Systems (SMS) at the States level, ICAO has selected to distribute to the accredited States the ECCAIRS Reporting System, provided free of charge by the European Commission, allowing them to collect and manage aviation occurrence data, and giving them the possibility to exchange this information with ICAO and/or its neighbours.

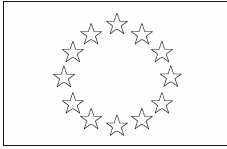
The ADREP/ECCAIRS training course is part of the ICAO strategy to implement a well-established and common aviation occurrence data exchange platform with its own members. This course was the first concrete initiative by ICAO on the African continent to implement the ECCAIRS electronic aviation occurrence reporting system and database. None of the participating States had ever utilised the ECCAIRS Reporting System before.

Seen the particular starting conditions in the region and the desire to deliver a solid foundation for future activity in the area, ICAO has opted to request the presence of an experienced instructor from the JRC to be assisted by local staff. A support representative from ICAO HQ Training staff was not available to assist during this course.

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<sup>1</sup> ICAO WACAF Web Site: <http://www.icao.int/wacaf>

<sup>2</sup> (A) AFCAC Member State, (AP) APIRG Member State, (a) Also representing the Gambia



Objective of this workshop was to train technical staff of the Western and Central African organisations active in Civil Aviation (investigation bureaus, civil aviation authorities, air navigation, etc.) that are the target customers of the ECCAIRS system, on the installation and configuration of the ECCAIRS Reporting System and the liaison with the ADREP 2000 taxonomy.

The task of the JRC was presenting the ECCAIRS system to the students, training them for proficiently configuring it as a reporting tool for implementing the ADREP 2000 taxonomy in the light of the ICAO Annex 13 regulation on Occurrence Reporting, and illustrating the possibilities offered by the tool in the forecast of giving local end-user support.

All participants were asked to bring a laptop with administrative rights allowing the installation of the ECCAIRS software; the final objective of this training course was that they could take home a working system and start collecting data immediately.

The course was scheduled to be conducted in the French language. The participants were informed that the course material would be provided in English only.

It was decided to maintain the working hours proposed by ICAO WACAF, from 0900hrs to 1500hrs including 2 coffee breaks but no break for the lunch.

## **Participants**

The total number of participants listed for this training session was 27, excluding the lecturer. See attached list for full details.

Usually, for courses of this kind mentored at the JRC premises, the number of participants is limited to 8. It must be noted that some of the participants listed have attended passively, i.e. not working “hands-on” on the computers, because they wanted to seize this opportunity to learn about the ECCAIRS Reporting System.

The training course was announced to be targeting explicitly IT staff involved in the implementation and configuration of the ECCAIRS Reporting System. This requirement was underlined by ICAO WACAF when sending out the invitation to participate. Nevertheless, only a small part of the participants did fulfil this specific profile entirely; the average profile of the other participants was more close to the audience usually participating at the ECCAIRS End-User (Investigators) training courses.

Because of the presence of 2 representatives of the Nigerian Civil Aviation Authority, the course had to be conducted mainly in English. However, since a relevant part of the audience originated from countries not having English but French as a ‘native’ language (apart from Guinea-Bissau where the ‘primary’ language is Portuguese), the course was finally delivered in both English and French.

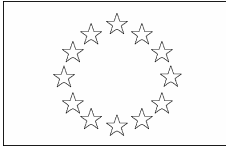
As a result, and combined with the objectives of this specific training course and the expectations of both ICAO WACAF and the participant States, it was agreed to follow the agenda loosely, keeping it as a general lead and trying to include and address issues related to the usage of the system, issues normally part of the mentioned ECCAIRS End-User (Investigators) training courses.

## **Material**

Before starting the training course, every organisation received from ICAO a box with the official ECCAIRS Reporting System software including the ECCAIRS User Manual and the Software Installation Manual.

Although a new release of the software had become available (release 4.2.7) just before the training course, it was decided to install and configure the last previous release of the software (release 4.2.6 Service Pack 1 Hotfix 1). This release was copied to each computer with a USB memory stick. A CD with the full ECCAIRS 4.2.6 Service Pack 1 Hotfix 1 software release was given to each participant at the end of the course. On the same CD, exercise material, presentations and customisations profiles from all types of ECCAIRS training courses were included.

ICAO also handed out a printed copy of the official ECCAIRS 4 Technical Course Exercise Manual.



## **Results**

*Monday December 10, 2007*

Once the participants completed the registration process, the training was opened with a welcoming speech by Mr. A. Guitteye, Regional Director of ICAO WACAF Office. Mr. Guitteye introduced Mr. Ooms as a lecturer, representing the European Commission and instructor of the ECCAIRS Reporting System.

After the introduction of the participants, having evaluated their background and their needs, the course agenda was discussed and changes were agreed upon. At that point, taking the PowerPoint presentations as a loose lead, the ECCAIRS Reporting System was presented as well as the background that brought the European Commission to develop such a system, using ICAO's ADREP taxonomy as a basis for the collection of aviation incidents and accidents.

Although not part of the sphere of competences, Mr. Ooms has informed the participants about their obligation towards ICAO in respect of mandatory occurrence reporting (EU Directive 2003/42/EC on Occurrence Reporting in Civil Aviation is not applicable here); this information was given with the sole purpose of indicating that the ECCAIRS Reporting System could indeed serve as a tool for collecting data in this context, albeit that the amount of data that could be collected was much more than the accidents and serious incidents required by Annex 13. The participants were instructed to continue referencing ICAO on this matter.

Immediately after, the course entered into the technical district, related to the installation and configuration of the ECCAIRS software. The first exercise, being the 'Client' configuration, was skipped because it necessitates the presence of a computer network – mandatory for such a set up – but this was not available. The lack of a computer network has led to skipping many more exercises during the training course; in some cases, improvisation and/or copying data files locally has partially resolved the situation.

The remainder of the day, the participants have installed the 'Stand-alone' ECCAIRS configuration, consisting in installing ECCAIRS software in 'Server' configuration and installing a royalty-free relational database, being MSDE (Microsoft Desktop Database Engine) 2000 Service Pack 3 available from the ECCAIRS installation CD. Mr. Honoré N'Gambi – IT Assistant at ICAO WACAF – has assisted the participants during the entire week helping them to complete the various steps.

The Language Manager tool was demonstrated which received very positive feedback especially from the French speaking participants, because it permitted them to work with the ECCAIRS system using the terms they were more comfortable with. Additional French view configuration files<sup>3</sup> were provided in order to have a full translated system (interface and taxonomy dictionary).

*Tuesday December 11, 2007*

On Tuesday, many tools of the ECCAIRS system were presented. Using the exercises, the participants loaded sample data into their local database. The same data would make it possible to further discover the tools, to allow interactive data access in the ECCAIRS Browser tool and to exercise with the ECCAIRS Query Builder tool.

Although the focus of the Technical training course is concentrated on the ECCAIRS Repository Manager tool (i.e. the tool needed for the configuration of the system), the Browser tool was widely explored and used to understand for instance the 'views', the edit mode, the configuration of the access and usage restrictions.

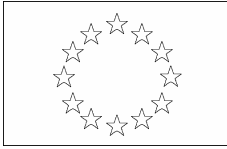
The second part of the day was dedicated mainly to the Browser tool, explaining its building blocks, the interface, the screen elements (different types of data entry fields), keyboard and mouse gestures (like holding down the [Ctrl] key and clicking on the elements for obtaining on-screen help and explanations from the dictionary).

*Wednesday December 12, 2007*

During the day, the initial part of the training course programme covering the set up of the ECCAIRS system was completed. The remainder of the day the attention was focussed on the data entry and included a review of the functionalities available in the Browser. Time was dedicated to the significance

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<sup>3</sup> Courtesy of the French accident investigation bureau BEA.



of coding occurrence in a structured manner, to the definition and purpose of some of the attributes, in particular the occurrence categories and to explaining the relation between data and data retrieval with the Query Builder tool. Also, the importance of data consistency, i.e. matching certain attribute values with others, was explained (for example, the aircraft suffered an engine problem but the occurrence category – which is another attribute – is indicating we are in the presence of a runway incursion).

*Thursday December 13, 2007*

The first part of the day, additional data entry examples were discussed. During the demonstration, Mr. Ooms also showed the features and the benefit of the TARGA system. The TARGA system is an Add-On to the ECCAIRS Reporting System, consisting in a separate database containing the characteristics of aircrafts (make/model, mass, registration mark, operator, etc.). The TARGA system facilitates the user during the data-entry session, automatically retrieving the information available for a given aircraft by means of the registration mark typed manually in the Occurrence Editor.

Since the ECCAIRS Reporting System is available in ICAO HQ (and soon ICAO WACAF also – Mr. Honoré N’Gambi installed the software during the same week) and ICAO HQ has established an electronic mail inbox at their Accident Investigation Group (AIG, address: [aiginbox@icao.int](mailto:aiginbox@icao.int)) where it is possible to send electronic occurrences files in the same format used by the ECCAIRS system, the participants were shown how to export occurrence data from a local database using the Browser and send this via their own e-mail application. Not having a network, this functionality was not exercised.

Using presentations from the End-User training course, the principles of good coding were exposed together with the so-called ‘10 commandments’. The participants requested a copy of the presentations shown to be made available on the training course CD.

The second part of the day was dedicated to the Exporter tool. The participants were pleased about the possibility of creating files in Microsoft Access and Excel format. Next, the ability to produce customised reports of the occurrence data was also demonstrated. Guided step-by-step by Mr. Ooms, the participants have first created a report using the sample templates available from the Installation CD but have also created another report using a template that is part of the ‘Reporting with ECCAIRS’ training course. Some participants had already managed to change this last template adding the logo and the name of their organisation. Mr. Ooms pointed out that a Reference Manual for customising the templates was included on the CD.

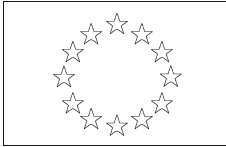
*Friday December 14, 2007*

The last day of the course has been dedicated to the Grapher tool. The participants were left ample time to experiment with the tool using a sample Graph Library copied onto their computer. This graph Library is normally used as handout and exercise material during End-User training courses. Briefly, the possibility to copy/paste a graph image into Microsoft Word or PowerPoint for reporting or presentation purposes was also demonstrated.

Around 1300hrs the course ended and Mr. Mam Sait Jallow, Deputy Regional Director, gave a closing ceremony speech. Mr. Ooms gave also a speech. Capt. Agbon-Ifo Pullen from the Nigerian CAA seized the opportunity to express his gratitude to Mr. Ooms for the delivery of the course and for all the efforts done by Mr. Ooms for solving all the technical problems that occurred with the computer of his colleague, Mr. Imo Samuel, and with computers of other participants having similar problems. Capt. Pullen also expressed the desire to see this same course repeated at the premises of the NCAA offices in Lagos, Nigeria. Mr. Ooms replied that any form of training had to be coordinated with ICAO WACAF and that ICAO WACAF would coordinate with ICAO HQ and eventually with the JRC.

At the end of the ceremony, each participant received a certificate from Mr. Jallow and Mr. Ooms gave each participant a copy of the course CD.

Before the participants set free, Mr. Ooms proposed to assist in setting up a particular configuration of their ECCAIRS system on their computer, consisting of 2 separate repositories: the first being used for testing and experimenting (a so-called ‘playground’) and the second being the repository for real-life occurrences. Part of the group accepted this proposal and remained after the course to perform the configuration.



## **Particular Findings**

As said earlier, the participants were instructed to bring their own equipment, consisting in a portable computer with Microsoft Windows XP Professional operating system. With this approach, there was no control on what type of hardware and software would be available in the room, and a risk was present that a part of the participants would be unable to complete the programme. At the end, the situation was under control and the fear clearly overstated.

Most of the computers did carry to the required configuration. However, some of them did operate Microsoft Windows XP Home, Vista Home Premium or Vista Home Basic. At the actual stage, Vista (which does come in different 'Editions' – 5 at the moment of writing) is currently not officially supported by the ECCAIRS Reporting System.

On all computers except 3 it was possible to install the software and complete the configuration without problems. Of the 3 computers, 2 were running Vista and 1 was running Windows XP Professional. During the week and in the spare time between the exercises, Mr. Ooms investigated the problems and by applying solutions found on the Internet (installing MSDE 2000 Service Pack 4 or Microsoft SQL Server 2005 Express Edition) made it possible to fully recover all failing installations except for one; the owner of this computer had brought a spare computer with Windows XP on which the installation was completed successfully.

The only one failing computer was operating Vista Home Basic. All the attempts to solve the problem, carrying out the same operations that finally made it possible to run ECCAIRS on Vista Home Premium, were unsuccessful. It was concluded that it is indeed not possible to run ECCAIRS on Vista Home Basic.

Because of the particular configuration of the classroom at ICAO WACAF and the large size of the group, for many participants the projector screen was simply too small to have good reading. Making available the presentations on each computer and working with screen magnifiers partially solved the problems.

Not having a local (and secure) network available has limited the number of topics and exercises contained in the Technical training course that could be carried out. The backgrounds of the participants, not to mention the effects of a bi-lingual conduction, have also caused a considerable impact on the original agenda and on the pace of the course. Although the course was announced as a Technical training course for IT staff, many participants did not match the profile of the target audience.

The training course demonstrated that conduction by a sole instructor to a large and heterogeneous audience without the necessary infrastructure is demanding a lot of effort, improvisation and spirit of adaptation, both from the instructor but also from the participants themselves. In practice, 2 different training programmes were carried out in the same time of a single one to a much larger group.

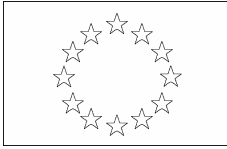
Future training sessions should learn from this, avoiding as much as possible working with overcrowded classes, unbalanced audience or understaffed instructor teams. This event should remain a unique episode.

## **Conclusions**

To the training course, some 10 States and a broad range of organisations participated. These organisations now have a common and standardised data acquisition platform available for collecting and managing data of aviation occurrences. With this tool, they can now exchange with ICAO and with other countries in the region. The participants carried back a working system. Some of them also have a testing environment running in parallel.

In the opinion of all participants, the return of this course was clearly surpassing the cautious expectations at the beginning of the week. ICAO WACAF was extremely pleased with the outcome of the training course and was very grateful to the JRC being able to provide an instructor for this workshop in Dakar, Senegal. All participants have expressed their gratitude to Mr. Ooms for the delivery of the course. The participants were also very satisfied with the course set up and the professional conduction. They were also very impressed about the ECCAIRS system. Overall, the ECCAIRS software performed very well.

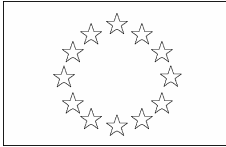
For this training session no exam was foreseen, in line with other courses conducted by the JRC; usually, the training courses conducted under the direct supervision of ICAO HQ do include an exam at the end of the course. Also, no instructors' evaluation form was filled out.



The ECCAIRS Portal (<http://eccairsportal.jrc.it/>) was announced to the participants and they received the invitation to register themselves. The fact that the new release 4.2.7 of the ECCAIRS Reporting System is available as a download package only from the ECCAIRS Portal (registration required) and not on a CD was used as a motive for providing release 4.2.6 Service Pack 1 Hotfix 1 instead. This release is considered particularly stable. The participants were advised to upgrade their system to release 4.2.7 but to perform this upgrade with caution and after having acquired the necessary background data.

Having noted that a number of (local) African airline operators were missing from the system, the recommendation was given to the participants to make a list of the missing operators and of the operators that were not in business anymore, and to provide this list via the ECCAIRS Portal to the taxonomy group that is assigned the task of keeping the global list of operators updated.

The participants were conscious of the great task and the responsibilities that they are going to face back home. Even if they did know how to do data entry, how to use the system and how to exchange data and make reports, they were aware that the difficult part was working with ECCAIRS system without the close mentoring and coaching they received during the training course. They were all encouraged to use and practice the system regularly.



## **Appendix A – Description of the ECCAIRS 4 Technical course**

### **Title**

ECCAIRS Software: Installation, Configuration and Advanced Management and Usage.

### **In a few words**

This course covers the Installation, Setup and Management of the ECCAIRS system. This course is lectured entirely by the JRC, and has the scope of enabling MIS personnel to get acquainted with the system, allowing them to perform setup and configuration of their ECCAIRS installation, as well as being able to supply basic user support.

Students are encouraged to follow the entire course.

### **Audience**

MIS administrators and/or officers, power users

### **Not suited for**

Flight investigators, office clerks.

### **Prerequisites**

Reasonable knowledge and understanding of IT, in particular in the field of software architecture, databases, programming. Good knowledge of the Microsoft Windows operating system is required.

### **Duration**

5 days (Monday afternoon - Friday morning)

### **Mentoring**

By the JRC (1 person)

### **Objectives**

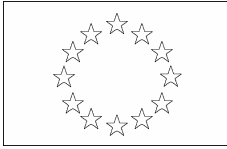
The course aims the following objectives:

- Implementation and set up of ECCAIRS client in networked environments
- Implementation and setup of ECCAIRS server in stand-alone and networked environment
- Implementation of MSDE as a database for ECCAIRS
- Data exchange with other proprietary applications
- Organisation of training as well as local, day-to-day, support
- Installation and management of API entries

### **Agenda**

09:00-12:30		<b>Day 1</b>
14:00-17:30	Welcome, Objectives, Handout Introduction and presentations on ECCAIRS and its architecture ECCAIRS client	
09:00-12:30	ECCAIRS server based on MSDE Database connectivity, DCOM, Data sources Utilities	<b>Day 2</b>
14:00-17:30	Repository Manager (Users, Roles) Profiles (Browser Application, Security, Views), Exercises	
09:00-12:30	Profiles (Data Source), Exercises Browser: usage	<b>Day 3</b>
14:00-17:30	Query Builder: usage & exercises Grapher: usage	





**Agenda**

09:00-12:30	Grapher: Graph libraries, Exporting, Exercises Exporter: Formats, Templates, Exercises	<b>Day 4</b>
14:00-17:30	Summary Report Management System (SRMS) ECCAIRS API: examples	
09:00-12:30	Practicing of learned topic, Free time Summary of the course, Discussion on results Conclusion	<b>Day 5</b>
14:00-17:30		



## Appendix B – Participants of the ICAO WACAF course

REV-3

### Programme Training Course on Safety Reporting, Database and Analysis (ADREP-ECCAIRS)

(Dakar, 10 – 14 December 2007)

List of Participants / Liste des participants				
N°	STATE/ETAT	NAME/NOM	TITLE/TITRE DESIGNATION	ADDRESS/TELEPHONE
1.	BENIN	Legba Karl	Chef Division Télécom chargé des survols/atterrissages	ANAC - 01 BP 305 – Cotonou Tel.: 229-21 30 92 17 Fax.: + 229-21 304571 E.mail : <a href="mailto:Legba_karl@yahoo.fr">Legba_karl@yahoo.fr</a>
2.		Aissi Servais	Chef Cellule Informatique et suivi des Projets	ANAC - 01 BP 305 – Cotonou Tel.: 229-21 309217 Fax.: + 229-21 304571 E.mail : <a href="mailto:aservais@hotmail.com">aservais@hotmail.com</a>
3.	CABO-VERDE	Sonia Raquel Barros Freitas	Airworthiness Inspector Chief Airworthiness Department	Civil Aviation Authority – Av. Cidade Lisboa n°34, P.O 371, Varzea, Praia, Cape-Verde Tel.: + 238 260 34 30 /31 Fax.: + 238 261 10 75 E.mail : <a href="mailto:soniaf@acivil.gov.cv">soniaf@acivil.gov.cv</a>
4.		Aruna Handem	Data Base Administrator IT-Data Base Coordinator Nosi	Civil Aviation Authority – Av. Cidade Lisboa n°34, P.O 371, Vaizzea, Praia, Tel.: + 238 260 34 30 /31 Fax.: + 238 261 10 75 E.mail : <a href="mailto:Aruna.Handem@nosi.cv">Aruna.Handem@nosi.cv</a>
5.	CONGO	Théodore B. Otoungabea Onguieme	Ingénieur des Etudes et d'Exploitation de la Navigation Aérienne	ANAC – BP 128 – Brazzaville Tel :+242-5709214 / 630 85 59 Fax : 242-810227 E-mail : <a href="mailto:ootb_oeht@yahoo.fr">ootb_oeht@yahoo.fr</a>
6.	GUINEE BISSAU	Eugenio C. C. Rodrigues Moreira	Administrateur/Directeur de la navigation aérienne	AACGB - Aéroport Inter. Osvaldo Vieira CP 77-1037 – Bissau Cedex Tel.: + 245-25 62 77 Tel/Fax.: + 245-25 62 75/6 E.mail : <a href="mailto:eccrm@yahoo.com.br">eccrm@yahoo.com.br</a>
7.		Constantino Sanches Vaz	Technicien de la navigation aérienne	AACGB - Aéroport Inter. Osvaldo Vieira CP 77-1037 – Bissau Cedex Tel.: + 245-25 62 77 Tel/Fax.: + 245-25 62 75/6 E.mail : <a href="mailto:consavaz@yahoo.com.br">consavaz@yahoo.com.br</a>
8.	MALI	N'Faly Cissé	Chef Service contrôle de sécurité et certification	ANAC - BP 227 – Bamako Tel.: + 223-229 55 24 / 6787387 Fax.: + 223-22961 77 E.mail : <a href="mailto:anacmali@hotmail.com">anacmali@hotmail.com</a> E-mail : <a href="mailto:karamcis@yahoo.fr">karamcis@yahoo.fr</a>
9.		Mamoudou Wélé	Ingénieur navigation aérienne, chargé de la navigabilité des aéronefs	ANAC - BP 227 – Bamako Tel.: + 223-229 55 24 / 6797815 Fax.: + 223-22961 77 E.mail : <a href="mailto:anacmali@hotmail.com">anacmali@hotmail.com</a> E-mail : <a href="mailto:mamoudouwele@yahoo.fr">mamoudouwele@yahoo.fr</a>
10.	MAURITANIE	Mohamed Saadbouh Abdi	Responsable Bureau Enquêtes-Accidents	ANAC - BP 91 Nouakchott Tel.: + 222-6351960 / 6772510 Fax.: + 222-5253578 E.mail : <a href="mailto:www.medsaadbouhabdi@yahoo.fr">www.medsaadbouhabdi@yahoo.fr</a>



List of Participants / Liste des participants

N°	STATE/ETAT	NAME/NOM	TITLE/TITRE DESIGNATION	ADDRESS/TELEPHONE
11.	NIGERIA	Pullen I. Mathias Agbon-Ifo (Capt.)	Head Safety Deficiency and Incident Analysis, NCAA Nigeria	NCAA – P.O Box 2620 Ikeja-Lagos Tel.: + 234-8022757680 / 8033063532 Fax.: + 234-12551075 E.mail: <a href="mailto:pullenagbonifo@yahoo.com">pullenagbonifo@yahoo.com</a>
12.		Imo Samuel (Engr.)	Aviation Safety Inspector (Airworthiness) Safety Deficiencies & Incident Analysis Unit, NCAA Nigeria	NCAA – PMB 21029, 21038 Ikeja-Lagos Tel.: + 234-8057099632 / 8067791130 Fax.: + 234-1-4930029 E.mail : <a href="mailto:imosam2005@yahoo.com">imosam2005@yahoo.com</a>
13.	REP. D. DU CONGO	Diabasenga Kusuamina Billy	ATM Section Head - Incidents Investigator	RVA – Coin des Avenues Kabasele Tshamala et Aerodrome – Kinshasa/N'dolo BP 6574 Tel.: + 243 818151745 Fax.: + E.mail : <a href="mailto:billydk67@yahoo.fr">billydk67@yahoo.fr</a>
14.	SENEGAL	Pap Atoumane Fall	Directeur de la Navigation aérienne	ANACS – BP 8184 Aéroport L.S. Senghor - Dakar Tel.: + 221-338695335 Fax.: + 221-338200403 E.mail : <a href="mailto:atoumanef@yahoo.com">atoumanef@yahoo.com</a>
15.		Bocar BA	Chef du Service Informatique – Inspecteur Sûreté de l'aviation	ANACS – BP 8184 Aéroport L.S. Senghor - Dakar Tel.: + 221-338695335 /77 6392543 Fax.: + 221-338200403 E.mail : <a href="mailto:bocar217@yahoo.fr">bocar217@yahoo.fr</a>
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