Development of a standardization and traceability center in ASECNA for Western Africa

Presented by: Jean Blaise NGAMINI

Meteorological Network Manager

ASECNA Dakar, Senegal

Summary

The purpose of this paper is to inform the meeting on the status of implementation of a standardization and traceability center within ASECNA (Agency for Aerial Navigation Security in Africa and Madagascar) for Western Africa and the collaboration between ASECNA and the RIC of Morocco in the calibration of barometer in the ASECNA Member States.

Introduction

During the twentieth meeting of the AFI Satellite Network Management Commission (SNMC/20) of the ICAO Regional Office for Western and Central Africa held in Abuja, Nigeria from 08 to 12 October 2012, the Decision 20/05 stated that, in accordance with Decision 18/02 and 19/04 of SNMC/19, proposed ASECNA to lead the team in charge of finalizing the study on the implementation of the regional calibration center for AFISNET Test Equipment.

The meeting also invited the SNMC member state to provide a complete and exhaustive list of their test equipment to ASECNA for the development of a database and finalization of the study on the implementation of the Center with the support of ICAO.

In the meantime, ASECNA was in the process of implementing a calibration unit for meteorological instrument: barometer, temperature and humidity. It then extend the scope of the calibration unit to a calibration center for meteorological and AFISNET Test Equipment called.

Calibration unit implementation

Within ASECNA, a working group of meteorologist and maintenance engineers was created to perform the study and implement the required center.

The first task of the team was to make and exhaustive inventory of meteorological and measuring devices which could be calibrated in the center and take the require

training course needed to perform the calibration task in the center, especially for the maintenance staff since the MET staff have already been trained by calibration Expert from the RIC of Morocco.

Two training sessions have already been organized in Toulouse France for ASECNA staff on the management of calibration unit and the calibration of meteorological and air navigation sensors and devices.

In its 2009 –2013 investment plan, a project was dedicated to cover the expenses related to the center, especially to make the necessary training and acquisition of the necessary equipment needed to start with. In the next Investment plan, a new building will be constructed, with the requirement of ISO 1725 taking into account.

Meteorological barometer calibration in ASECNA

ASECNA is made of 17 African countries and covers 16 million km^2. For traceability and calibration purpose, the ASECNA's barometric network is divided into three regions and each region is equipped with a regional standard barometer figures 1 to 3 bollow :

- The west African region, with Dakar, Senegal as the central point;
- The Central African region with Douala, Cameroon as a central point and;
- The Indian Ocean region with Antananarivo, Madagascar as a central point.

The figure bellow shows the countries connected to each central point.

ASECNA Barometric Network

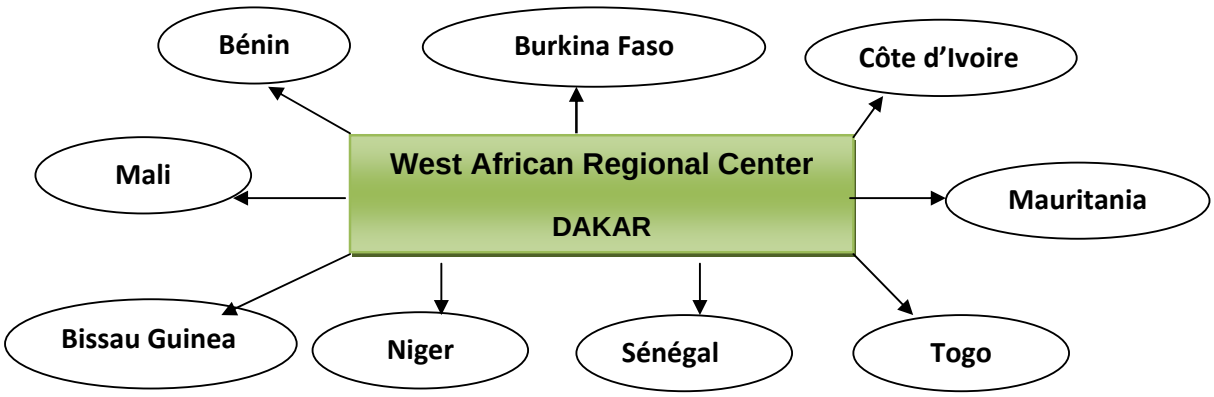

Figure 1: the Western African Barometric Center

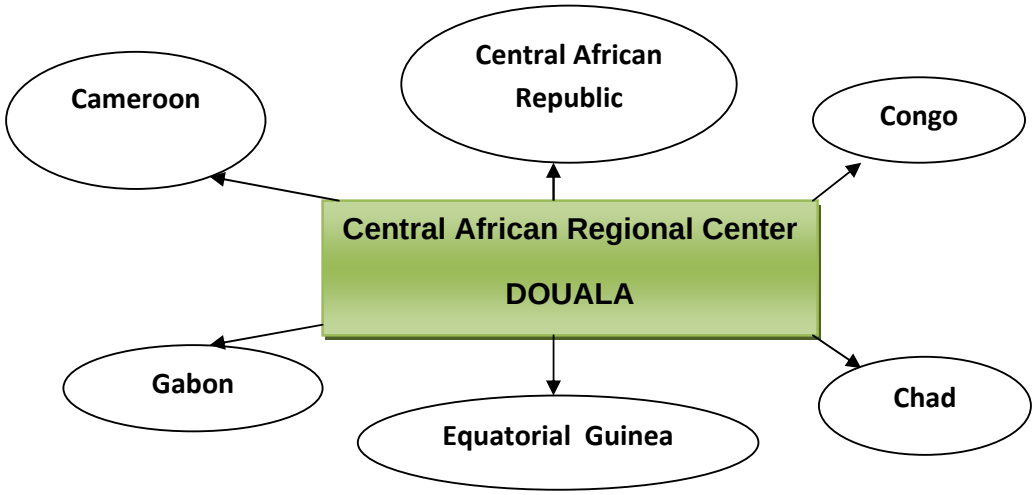

Figure 2: the Central African Barometric Center

Figure 3: the Indian Ocean Barometric Center

For traceability, every two years, the three regional standard barometers are calibrated by the RIC of Morocco; these regional standard barometers are used to calibrate national standard barometer of each country connected to the regional center. The national standard barometer is used to calibrate the barometers which are in the meteorological station of the country.

In each region, ASECNA has a well-trained staff to take care of the calibration of national standard of the countries connected to the region. In each country, ASECNA has at least one person that is qualified to perform the calibration of barometers in the national meteorological stations.

In the ASECNA's network, the regional and national standards are digital barometers; the meteorological stations still have mercury barometers. As of now, all mercury and digital barometers of network are Calibrated and traceable. These barometers are calibrated every two years.

Conclusion

ASECNA is an Aeronautical Service provider and has to comply with the regulation of ICAO and WMO, the upcoming calibration center will take care of the calibration of meteorological and aeronautical censors in the region and its scope will go beyond ASECNA's member States. When the center will be fully operational, it will serve the entire region, staff from non ASECNA member States will be able to work and be trained there.

This center will then provide an opportunity to implement the WIGOS' objective in putting together the competences of the region for observation and maintenance of meteorological and aeronautical instrument.

References: - 20th Satellite Network Management Committee (SNMC 20) Report

- 21st Satellite Network Management Committee (SNMC 21) Report