



WEST AFRICA QUALITY SYSTEM PROGRAMME  
Support for the Implementation of the ECOWAS Quality Policy (ECOQUAL)  
Funded by the European Union

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**REPORT OF THE WORKSHOP FOR THE ADOPTION OF DRAFT  
DOCUMENTS RELATING TO CALIBRATION GUIDES AND HARMONIZED  
PROCEDURES FOR VERIFICATION OF MEASURING INSTRUMENTS BY  
THE COMMUNITY METROLOGY COMMITTEE**

**(ECOMET)**

**17-19 June, 2019**

**Accra, Ghana**

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## 1. Background

The West African Quality System Program (WAQSP) of ECOWAS, implemented by the United Nations Industrial Development Organization (UNIDO), funded by the European Union (EU), organized the second meeting of the Community Committee for Metrology (ECOMET) from 17- 19 June 2019 at La-Palm Royal Beach Hotel in Accra.

The sessions were chaired by Mr Paul DATE, President of ECOMET assisted by his Vice President Mr Gabriel AHISSOU.

This meeting is part of the operationalization of the quality bodies of ECOWAS created in November 2017 in Abuja, Nigeria on the basis of Regulation C / REG. / 19/12/13 of 2013 adopted by the Council of Ministers of ECOWAS and creating the Regional Quality Infrastructure Scheme of the ECOWAS region.

## 2. Participants

This workshop was attended by all ECOWAS Member States except Togo, the WAQSP, representatives of the ECOWAS Commission and PTB, the list of which is attached as Annex 1.

Its main objective was the adoption of draft documents related to ECOWAS calibration guides and harmonized procedures for verification of measuring instruments.

## 3. Opening of the ceremony

The opening ceremony was marked by three speeches. It began with the representative of UNIDO, followed by the representative of the ECOWAS Commission, and then finally representative for the Minister of Trade and Industry of the Republic of Ghana.

### 3.1 Speech by Mr. Fakhrudin Azizi, UNIDO's representative

In his address **Mr. Fakhrudin Azizi**, after welcoming the participants, welcomed the results obtained by the WAQSP since its inception.

He emphasized the importance of metrology in the development of the quality infrastructure of the sub-region and the importance of taking it into account in economic partnership agreements.

He thanked the European Union, which has renewed its confidence in UNIDO for the implementation of the quality component of the regional Programme regarding the roll out of the regional value chains.

He stated that UNIDO is honoured to continue support for the ECOWAS



Commission to effectively operationalize the regional quality structure components of the region.

While wishing fruitful deliberations at this workshop, he reiterated UNIDO's commitment to support ECOWAS Commission in the implementation of quality projects.

### **3.2 Speech by Mr Ajoku Kemjika, representative of the ECOWAS Commission**

**Mr. Ajoku Kemjika**, representative of the Commissioner of Industry and Private Sector Promotion, thanked the representatives of the Minister of Trade and Industry of Ghana for agreeing to chair the opening ceremony of the ECOMET meeting on the validation of calibration guides and harmonized procedures for verification of measuring instruments.

He also thanked UNIDO and the European Union for their continued support for the development of the Quality Infrastructure within the sub-region.

He then stressed the importance of metrology in the economic and social development of the ECOWAS region.

According to the Commissioner's representative, one of the main results of the implementation of the ECOWAS Quality Policy is the establishment of the ECOWAS Quality Agency which is to ensure the coordination of the different components of the regional quality infrastructure.

He urged ECOMET members to actively participate in this workshop so that the documents that will be validated by the Community Committee for Metrology will be submitted for adoption by the ECOWAS authorities.

### **3.3 Speech by Mr. Charles Amoako, Representative of the Minister of Commerce of Industry of the Republic of Ghana**

**Mr. Charles Amoako**, like his predecessors, welcomed all the participants. He went on to stress the importance of the results, which should indirectly help to increase the level of exports of ECOWAS Community.

In addition, he stressed the need to develop the ECOWAS Quality Infrastructure in accordance with international standards.

After urging the representatives of different countries to participate actively in achieving the objectives, he declared open the workshop for the adoption of the draft documents related to the calibration guides and harmonized procedures for verification of measuring instruments.

#### **4. Bureau**

Three rapporteurs in the three languages were appointed to assist the President of the meeting; they are as follows:

- Mr. **Issa SAWADOGO**, representative of Burkina Faso ;
- Mr. **Frank Martin**, representative of Sierra Leone ;
- Mr. **Cesario A. Nunes Correia** representative of Guinea Bissau.

#### **5. Agenda of the meeting**

The workshop was carried out according to the content of the agenda proposed by the President according to the Terms of reference of the workshop: these are as follows:

- Presentation of the WAQSP;
- Exchange on the formalization of ECOMET (ECOMET membership to AFRIMETS, BIPM and OIML);
- Creation of Technical Committees (TCs) and Working Groups (WGs);
- Exchange on the presentation format of the ECOMET website;
- Adoption of calibration guides and verification procedures;
- Exchange on questionnaires in industrial metrology ;
- Exchanges on the traceability system of the sub-region.

#### **6. Presentation of the WAQSP**

The presentation of the WAQSP was made by the Deputy Chief Technical Coordinator of WAQSP, Mr. Djakaridja NYAMBA.

In his remarks, he outlined the context of the implementation of this Programme and mainly on the results achieved by the Programme since its implementation in terms of Standardization, Accreditation, Metrology, Conformity assessment, Technical regulation, Intercomparison, laboratory support for accreditation. He made the case of a project to set up a measurement instrument maintenance platform at the sub-regional level to meet the crucial need for the repair of metrology laboratory equipment.

#### **7. Exchanges on the formalization of ECOMET (ECOMET membership to AFRIMET, BIPM and OIML)**

The membership issue of ECOMET to AFRIMETS was presented by **Mr Paul DATE**, President of ECOMET. He noted that since ECOMET is the Sub-Regional Metrology Organization (SRMO) of West Africa, it must be



represented within the Intra-African Metrology System (AFRIMETS) like the other RMOs, such as SADC MET, EAMET, CEMAC MET and MAGMET.

In the same vein, the AFRIMETS application for membership received the following responses:

- the withdrawal of SOAMET from AFRIMETS so that ECOMET can submit its application for membership;
- the individual resignation of member states from SOAMET.

Unanimously, the participants chose the first proposal, but SOAMET's withdrawal process should be discussed between the authorities of ECOWAS and UEMOA.

The deadline for submitting the ECOMET application to AFRIMETS has been set for January 2020.

## 8. Creation of technical committees and working groups

Five technical committees and their working groups have been established and are listed in the table below.

N°	ECOMET	
	Technical Committees (TC)	Working Group (WG)
1	TC 1: Awareness	
2	TC2: Legal metrology	<ul style="list-style-type: none"> <li>• Verification of measuring instruments</li> <li>• Prepackaged Controls</li> </ul>
3	TC3: Mass and related quantities	<ul style="list-style-type: none"> <li>• Mass</li> <li>• Volume</li> <li>• Pressure</li> <li>• Balance</li> </ul>
4	TC 4: Thermometry	<ul style="list-style-type: none"> <li>• Temperature</li> <li>• Hygrometry</li> </ul>
5	TC 5: Quality system	

## 9. Exchange on the format of the ECOMET website

The model of the BIPM Consultative Committees website was presented to participants by Mr. NYAMBA Djakaridja for comments. He suggested that the ECOMET website be similar to the BIPM Consultative

Committees website. Having no objection to his suggestion, the President of ECOMET requested that this proposal be retained.

**10. Adoption of calibration guides and harmonized procedures for verification of measuring instruments**

Document Name	Presenter	Comments	Amendments made	Status adoption
The guide for evaluation and expression of measurement uncertainties	Djakaridja NYAMBA	<p>This guide concerns the procedure for evaluating and expressing measurement uncertainties. Two major points were addressed:</p> <ul style="list-style-type: none"> <li>• Type A and Type B methods</li> <li>• The composition of the uncertainties, the expanded uncertainty and the expression of the result of the measure</li> </ul> <p>This guide is accompanied by examples of evaluation of measurement uncertainties</p>	Amendments of forms made and incorporated in the documents	Adopted subject to consideration of amendments
Calibration guide in contact thermometry	Djakaridja NYAMBA	<p>This guide concerns contact thermometry and covers:</p> <ul style="list-style-type: none"> <li>• Liquid in glass thermometers</li> <li>• Thermocouples</li> <li>• Resistance thermometers</li> </ul> <p>This guide has examples of calibration in contact thermometers. Pyrometry in the field of non-contact thermometry will be subject of another guide</p>	Amendments forms and thermal leaks were made and integrated to the document	Adopted subject to consideration of amendments
Calibration guide in	Gabriel	Three major points were addressed:	The amendments of	Adopted



Document Name	Presenter	Comments	Amendments made	Status
the field of masses	Ahissou	<ul style="list-style-type: none"> <li>• Evaluation of comparators</li> <li>• Calibration of the masses</li> <li>• Evaluation of measurement uncertainties</li> </ul> <p>This guide also includes examples of calibrations of the masses</p>	Remarks forms and amendment forms	subject to consideration of amendments
Calibration guide for volumetric measuring instruments (gravimetric method)	Paul DATE	<p>This guide is based on the gravimetric method</p> <p>Applies to small volumes:</p> <ul style="list-style-type: none"> <li>• Measuring equipment used</li> <li>• The gravimetric method</li> <li>• The ambient conditions</li> <li>• The calculation of the volume <math>V_0</math></li> </ul>	Integrate the budget of uncertainties	Adopted subject to consideration of amendments
Calibration guide for pressure measuring instruments	Pau DATE	<p>This guide applies to pressure measuring instruments, transmitters and transducers with electrical outputs and strain gages</p>	Consider the latest version of the VIM because the one used in the document is not the last version	Adopted subject to consideration of amendments
Procedure for calibration and verification of flow	Pau DATE	<p>This guide contains at the same time a verification procedure and a guide for the calibration of volumetric meters.</p>	Define this guide to the field of calibration and devote the procedure of	Adopted subject to consideration

Document Name	Presenter	Comments	Amendments made	Status adoption
meters			verification of fuel distributors to volumetric meters	of amendme
Procedures for verification of fuel dispensers	Djakaridja NYAMBA	This guide covers the procedure for verification of fuel dispensers (including fuel pump and verification of flow meters)  Some countries suggested that the procedure be more simplified but it should be noted that this should take into account at least aspects related to the initial, periodic verification and surveillance.	-Add a column in the table on page 15 to consider the MPE in percent for Francophones of countries -Amendments of forms has been made	Adopted subject to consideration of amendme
Verification procedure of weighing instruments	Gabriel Ahissou	Comments on the lack of consideration of axle weighing checks were raised The weigh axles will be another document that is not provided as part of this guide	Amendments forms that will be incorporated into the document	Adopted subject to consideration of amendme
Test procedure for prepackaged	Gabriel Ahissou	This procedure concerns the control of the net contents of prepackages.	-Refer the sampling plan to take into account the	Adopted subject to

Document Name	Presenter	Comments	Amendments made	Status
products		Exchange product to Nominal Quantity (QN) variables that are not subject of this guide	latest version of the OIML recommendation (R87: Quantity of product in prepackages)	consideration of amendme



It should be noted that the Portuguese-speaking countries deplored the fact that the documents were not sent to them in Portuguese version so that they could make their amendments.

The Chair acknowledged the relevance of this remark and explained that the time allowed for the organization of this workshop did not allow the translation of the documents into the different languages.

The issue of axle weighing raised by some states such as Senegal and Burkina Faso has been taken into account by ECOMET which has set up a **Committee of two experts** (Djakaridja NYAMBA, Gabriel AHISSOU) who will visit Ghana, Côte d'Ivoire and Senegal to audit the axle weighing system and make recommendations regarding training modules and suitability of the choice of weighing equipment.

### **11. Exchanges on questionnaires in the field of calibration**

Mr. NYAMBA Djakaridja presented the contents of the questionnaire prepared for this purpose.

He also explained that this questionnaire answered a need to set up a database on the capability of the region in metrology.

### **12. Exchanges on the traceability system**

The participants discussed the need to develop the traceability system of the countries of the subregion, which will in the end enable member countries to improve the metrological capability of ECOWAS Community and to limit the costs associated with calibrations made in the developed countries and customs hassle.

### **13. Recommendation**

#### **To PTB**

It was requested that PTB take charge of the activities of this Expert Committee on Axle Weights.

#### **To ECOWAS Commission**

- Harmonize the periodicity of verification of measuring instruments in legal metrology
- Facilitate the transport of standards between the different states for the purposes of inter-laboratory comparisons and the connection of laboratory standards

#### **To ECOMET**

Translate the documents into all the languages of the ECOWAS and, if not, inform the States concerned so that arrangements can be made.

#### **14. Motion of Thanks**

ECOMET extends its thanks to the Ghanaian authorities for their warm welcome.

ECOMET extends its thanks also to the ECOWAS Commission, UNIDO for organizing this event and to the PTB for its participation.

#### **15. Closing Ceremony**

**Mrs Laura Haeussler** thanked the ECOWAS Commission for inviting PTB to participate in this important meeting. She also thanked the ECOMET members for their active participation during this meeting which enriched the proposed documents.

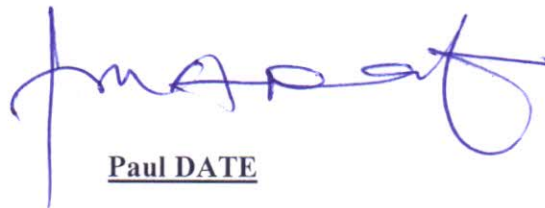
Mr. NYAMBA Djakaridja, Deputy Chief Technical Adviser of the WAQSP, first thanked the European Union for choosing UNIDO for the implementation of ECOWAS projects in the field of quality and value chains. He then showed appreciation to PTB for agreeing to take part in the second meeting of ECOMET. He also expressed gratitude to Mr. Ajoku Kemjika, representative of the Commissioner of Industry and Promotion of the Private Sector for the constant support of his department in the implementation of the activities of the WAQSP.

Mr. Ajoku Kemjika acknowledged the commitment of PTB for responding to the ECOWAS invitation. He then congratulated the ECOMET President and Vice President for the good management of the meeting. Finally, he commended the participants for the work done while emphasizing the importance of the adopted documents that will enable National Metrology Institutions (NMI) to develop their calibration procedures and verification of measuring instruments.

The report was adopted by acclamation.

Done in Accra, Ghana 19<sup>th</sup> June 2019

President of ECOMET



Paul DATE



**APPENDIX 1: List of participants**

N°	NAME&SURNAME(S)	COUNTRY	STRUCTURE	E-MAIL
1	M. AHISSOU Gabriel	Benin	Agence Nationale de Normalisation et de Contrôle de la Qualité (ANM)	ahigab2005@yahoo.fr
2	Issa SAWADOGO	Burkina Faso	Agence Burkinabè de Normalisation (ABNORM)	issa_sawa@yahoo.fr
3	Mr. Jose Antonio CARVALHO	Cape Verde	NMI, Cabo Verde	Jose.P.Carvalho@mee.gov.cv
4	M. ZABO Déza Emmanuel	Côte d'Ivoire	LANEMA	emmanueldeza@hotmail.com
5	AMADOU TIJAN JALLOW	Gambia	The Gambia Standards Bureau (TGSB)	nmlgambia@gmail.com
6	Mr. Paul Date	Ghana	Ghana Standards Authority (GSA)	date_105@msn.com
7	Sanoussy DIAKHABY	Guinea Conakry	Institut guinéen de Normalisation et de Métrologie (IGNM)	diakhsanoussy@gmail.com
8	M. Cesario Augusto Nunes CORREIA	Guinea Bissau	MEI/DGI/DS Metrology	cesariocorreia@yahoo.com.br
9	Mr. Abdulrahman VO Sheriff	Liberia	National Standards Laboratory (NSL)	abduhrahmans40@yahoo.com
10	M. Drissa DAOU	Mali	Agence Malienne de Métrologie (AMAM)	drissadaou@yahoo.fr
11	M. Boubacar ISSA	Niger	Direction de la Qualité, de la Promotion, Normalisation et de la Métrologie (DNPQM)	boubacar_issa@yahoo.fr
12	Bede Egwu Obayi	Nigeria	NMI/Standards Organisation of Nigeria (SON)	beobayi@yahoo.com



13	M. Ibrahima SARR	Senegal	Division Météologie	ibrahima44sarr@gmail.com
14	Frank Martin	Sierra Leone	Sierra Leone Standards Bureau (SLSB)	frank.martin993@gmail.com
15		Togo	DCML	
16	Ethmane Mohamed Adellahi	Mauritania	Direction de la Normalisation et de Promotion de la Qualité	mdethmane@yahoo.fr
<b>REPRESENTATIVES OF ECOWAS COMMISSION</b>				
<b>N°</b>	<b>POSITION</b>	<b>NAME</b>	<b>URNAME(S)</b>	<b>E-mail</b>
17	Representatives ECOWAS Commissioner for Industry and Private Sector Promotion	Ajoku	Kemjika	ajokukemji@yahoo.co.uk
<b>REPRESENTATIVE OF PHYSIKALISCH-TECHNISCHE BUNDESANSTALT (PTB)</b>				
<b>N°</b>	<b>FONCTION/POSTE</b>	<b>NOM</b>	<b>PRENOM(S)</b>	<b>E-mail</b>
18	ECOWAS PTB Metrology project coordinator	Haeussler	Laura	laura.haeussler@ptb.de
19	PTB Consultant	Ntiyamira	Patrice	patn3678@gmail.com
<b>REPRESENTATIVES OF THE REGIONAL TECHNICAL COORDINATION UNIT (RTC)</b>				
<b>N°</b>	<b>FONCTION/POSTE</b>	<b>NOM</b>	<b>PRENOM(S)</b>	<b>E-mail</b>
20	Deputy Chief Technical Advisor	Nyamba	Djakaridja	d.nyamba@yahoo.fr
21	Expert en Communication	Zoueme	Serge David	S.ZOUEME@unido.org

## APPENDIX 2: Work program

SCHEDULE	ACTIVITIES	KEY STAKEHOLDERS
<b>DAY 1</b>		
08:30-09:00	Welcome and settlement of the participants	
09:00-10:15	Opening of the Regional Meeting Speeches Press point of officials and group photo	Minister in charge of Industry or his representative, ECOWAS Commission, European Union, UNIDO Participants
10:15 – 10:30	<b>Coffee-Break</b>	
10:30-12:45	<ul style="list-style-type: none"> <li>• Presentation of participants</li> <li>• Presentation of the PSQAO</li> <li>• Exchange on the formalization of ECOMET (ECOMET membership to AFRIMET, BIPM and OIML)</li> <li>• Exchange on metrological traceability system in the ECOWAS area - Implementation of the international system of units (SI)</li> </ul>	PSQAO Chairman of ECOMET Regional expert in metrology and participants
12:45-14:00	<b>Lunch</b>	
14:15-16:30	<ul style="list-style-type: none"> <li>• Questionnaire on Legal Metrology</li> <li>• Creation of ECOMET Technical Committees and Working Groups</li> <li>• Exchange on the presentation format of ECOMET website</li> </ul>	PSQAO Chairman of ECOMET Regional expert in metrology and participants
16:30-17:00	<b>Coffee-Break</b>	
<b>DAY 2</b>		
08:30-10:30	<ul style="list-style-type: none"> <li>• Adoption of the guide on measurement uncertainties</li> <li>• Adoption of the calibration guide contact thermometry</li> <li>• Adoption of the calibration guide on mass measurement</li> </ul>	PSQAO Chairman of ECOMET Regional expert in metrology and participants
10:30-10:45	<b>Coffee-Break</b>	
10:45-12:30	<ul style="list-style-type: none"> <li>• Adoption of the Calibration Guide on volumes measurement</li> <li>• Adoption of the Calibration Guide in pressure measurement</li> </ul>	PSQAO Chairman of ECOMET Regional expert in metrology and participants
12:30- 13:30	<b>Lunch</b>	
13:30- 16:30	<ul style="list-style-type: none"> <li>• Adoption of the harmonized procedure for the verification of flowmeters</li> <li>• Adoption of the harmonized procedure for the verification of fuel dispensers</li> <li>• Adoption of the harmonized procedure for verification of weighing instruments</li> </ul>	PSQAO Chairman of ECOMET Regional expert in metrology and participants
16:30-17:00	<b>Coffee-Break</b>	

<b>DAY 3</b>		
08:30-10:30	<ul style="list-style-type: none"> <li>• Adoption of the harmonized procedure for control of quantity of product in pre-packages</li> <li>• Status of implementation of the ECOMET 2017-2018 Action plan</li> </ul>	PSQAO Chairman of ECOMET Regional expert in metrology and participants
10:30-10:45	<b>Coffee-Break</b>	
10:45-12:30	Preparation of the report of the meeting	Bureau of the meeting / WAQSP
12:30- 13:30	<b>Lunch</b>	
13:30- 16:30	Adoption of the report of the meeting and Review of objectives, Evaluation of the meeting	PSQAO Chairman of ECOMET Regional expert in metrology and participants
16:30-17:00	Closing of the session	Chairman of ECOMET, ECOWAS Commission,



***APPENDIX 3: Questionnaire on industrial metrology  
(Calibration)***